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SUPERFUND

Insuring Underground Petroleum Tanks



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Comptroller General
of the United States

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To the President of the Senate and the
Speaker of the House of Representatives

During the 1985-86 Superfund reauthorization process in the Congress, concerns were raised about the availability of pollution insurance. The Superfund Amendments and Reauthorization Act of 1986 directed that we determine the availability of insurance for owners and operators of petroleum storage and distribution facilities. This report represents our analysis of this issue and discusses

- the current and projected availability of tank insurance,
- the ability of tank owners or operators to maintain financial responsibility through methods other than insurance,
- the experience of marine vessel owners and operators in getting insurance for similar liabilities under the Federal Water Pollution Control Act and the operation of the Water Quality Insurance Syndicate, and
- a number of options to assist tank owners and operators in demonstrating financial responsibility.

Copies of this report are being sent to appropriate House and Senate Committees; the Administrator, Environmental Protection Agency; the Commandant, U.S. Coast Guard; the Director, Office of Management and Budget; and other interested parties. Copies will also be made available to others upon request.

This report was performed under the direction of Hugh J. Wessinger, Senior Associate Director, Resources, Community, and Economic Development Division. Other major contributors are listed in appendix II.

Charles A. Bowsher
Comptroller General
of the United States

Executive Summary

Purpose

There are about 1.4 million underground petroleum storage tanks at nearly 500,000 facilities in the United States. The Environmental Protection Agency (EPA) estimates that hundreds of thousands of these tanks at facilities such as gas stations and utility companies have corroded and are leaking. Some leaks have contaminated groundwater or resulted in fires or explosions. EPA expects many more tanks to leak in the future. The price tag for the growing problem could range in the billions of dollars. To ensure that tank owners have the financial resources to pay for damages resulting from tank leaks, the Congress, in 1986, provided that they carry insurance or use other methods to demonstrate financial responsibility, such as letters of credit or self-insurance.

Because of concerns about the availability of tank insurance, the Congress also mandated in the Superfund Amendments and Reauthorization Act of 1986 that GAO determine whether insurance is generally available and to what extent other financial assurance methods might be used to demonstrate financial responsibility. GAO was also directed to consider vessel owners' experiences in obtaining insurance for marine oil spills.

Background

In 1984 and later in 1986, the Congress required EPA to develop regulations (1) to prevent, detect, and correct tank leaks and (2) to require many tank owners and operators who sell petroleum products to carry a minimum of \$1 million of insurance or otherwise demonstrate financial responsibility for this amount. The legislation also provides that EPA, in developing the financial responsibility rules, may consider certain factors, such as the impact of rules on small businesses. The legislation also allows EPA to temporarily suspend enforcement of financial responsibility requirements if financial assurance methods are generally unavailable and tank owners are taking certain steps to comply with these requirements.

In April 1987 EPA published proposed regulations requiring all petroleum tank owners and operators to maintain evidence of financial responsibility of \$1 million to \$6 million, depending on the number of tanks they own. EPA also proposed technical regulations that will be implemented over a 10-year period to improve tank installation, integrity, and operation. EPA estimated these regulations will take effect in mid-1988. Noncompliance could subject tank owners to fines of \$25,000 a day. EPA plans to rely on states to enforce these regulations; however, it will be a few years before the states will be ready to assume this responsibility.

Results in Brief

Insurance will be one of the primary methods sought by tank owners for demonstrating financial responsibility. However, the availability of tank insurance is currently limited because many insurers remain unwilling to enter this market. They perceive tank leaks and the magnitude of potential losses resulting from leaks to be unpredictable. While self-insurance and methods other than insurance may be used to demonstrate financial responsibility for the many tanks accounted for by large corporations and by some other tank owners, most owners do not have the resources to qualify for most of these methods. In addition, some of these other methods have not been traditionally used to cover tank leaks.

EPA and others expect that over the next several years, the risks associated with tanks will decrease and the insurance situation will improve as tank owners make required technical safety improvements, such as installing leak detection devices or replacing tanks with ones less likely to corrode. Until such changes occur, however, the possibility exists that thousands of tank owners would be unable to obtain insurance as a means of complying with financial responsibility requirements proposed by EPA. Unless other methods become more available, these circumstances, in GAO's view, warrant changes in EPA's timetables for implementing proposed regulations covering (1) financial responsibility requirements and (2) tank upgrading and replacement.

Principal Findings

Availability of Tank Insurance

GAO identified two sources that provided virtually all the tank coverage sold in the United States over the last 3 years. These two firms each provided insurance to owners of about 100,000 tanks, or about 14 percent of all U.S. tanks. In January 1987, both firms offered maximum policy limits of \$2 million. By July 1987, however, one firm terminated its tank insurance program and is currently assisting some tank owners in pooling their risks and obtaining insurance through a risk-retention group. As a result, at the present time, there is only one substantial provider of tank insurance.

In addition, over the last several years, at least six other companies have withdrawn or become inactive in this insurance market. With one exception, insurers who withdrew from this market told us that they

still are not interested in reentering the market. The one firm which is considering providing tank coverage may insure new tanks only.

At least two firms began selling tank insurance or expanded their tank insurance programs during 1987. The number of policies they have sold has been quite small, the policies are available only in limited geographic areas, and policy limits may be less than EPA's proposed regulatory requirements. Although several additional firms have indicated they intend to enter this market, for the most part they are several months away from actually offering insurance policies. (See ch. 2.)

Other Methods

EPA allows eight other methods aside from insurance for demonstrating financial responsibility, such as self-insurance, letters of credit, or surety bonds. Major oil companies (which own approximately 175,000 tanks), as well as other large corporations, such as national bus companies or car rental agencies (which own a sizable but unknown number of tanks), have resources sufficient to qualify as self-insurers. However, for most of the remaining tank owners, these methods generally are not appealing or applicable because some of them are more expensive than insurance; others do not transfer the risk as insurance does or require assets to be pledged beyond the resources of the average tank owner. In addition, some of these methods have not traditionally been used to cover liabilities resulting from tank leaks, or are still in the developmental phase. (See ch. 3.)

Insurance for Oil Spills From Vessels

In contrast to underground storage tank owners, marine pollution liability insurance to cover oil spills from vessels is available and affordable to nearly 90 percent of all vessel owners subject to Coast Guard-administered financial responsibility regulations. According to insurance and government officials, insurance is available mainly because the vessel industry is heavily regulated and closely monitored, reducing the risks to the insurer. In addition, these officials stated that marine oil spills generally are quickly detected and do not involve a significant threat to human health—eliminating a major concern of underground storage tanks. Finally, the scope and limits of liability have generally been statutorily set so that insurers know exactly the maximum potential losses they are insuring. (See ch. 4.)

Possible Options

Demonstrating financial responsibility at the present time is expected to cause serious difficulty for thousands of tank owners and operators. GAO

analyzed a variety of options to address this problem and supports using a two-pronged approach. First, EPA would implement the proposed financial responsibility regulations over a realistic timetable that provides incentives for both technical improvements and the development of state regulatory and enforcement programs. Second, EPA would implement tank upgrading and replacement regulations over a staggered 10-year period, with the oldest tanks being upgraded or replaced first. As the technology already exists to upgrade tanks, the maximum 10-year time span as presently proposed by EPA seems too long, especially for older tanks.

A primary benefit of this approach is that it provides additional protection to the public by allowing tank owners and operators to focus their attention on safety issues. It also allows insurers additional time to reevaluate the uncertainties that have discouraged them from offering insurance.

Various suggestions have also been made, such as modifying the \$1 million minimum and \$6 million maximum requirements or changing proposed requirements for certain methods, such as self-insurance. GAO also discusses a number of other options for helping tank owners comply with proposed financial responsibility regulations. (See ch. 5.)

Recommendations

GAO recommends that EPA (1) implement financial responsibility requirements over a realistic timetable that encourages tank owners to make technical improvements and states to develop regulatory programs and (2) revise its proposed 10-year maximum timetable for upgrading or replacing existing tanks with a 10-year staggered schedule, based on tank age. GAO also recommends that EPA continue to investigate what the appropriate liability limits and self-insurance requirements should be. (See ch. 5.)

Agency Comments

EPA stated that GAO's report did an admirable job of addressing the very complex, technical, and policy issues related to the availability of liability insurance for tanks. EPA's comments did not address GAO's recommendations. (See app. I.)

Contents

Executive Summary		2
Chapter 1		8
Introduction	Background	8
	EPA's Proposed Financial Responsibility Requirements	14
	EPA's Proposed Tank Technical Standards	15
	Impact of Proposed UST Rules	16
	Objectives, Scope, and Methodology	16
Chapter 2		19
Limited Availability of Tank Insurance	The Insurance Industry and Pollution Insurance	19
	Two Major UST Insurance Suppliers	22
	Several Insurers No Longer Provide Tank Insurance	25
	Several New Firms Offered UST Insurance in 1987	27
	Experience of Gas Station Owners and Jobbers in Obtaining UST Insurance	29
	Lack of Insurance Will Affect Thousands of UST Owners	30
	Conclusions	32
Chapter 3		33
Methods Other Than Insurance for Demonstrating Financial Responsibility	Financial Profile of Tank Owners and Operators in the Retail Motor Fuel Sector	34
	Analysis of Methods Other Than Insurance	35
	Conclusions	43
Chapter 4		44
The Availability of Pollution Insurance for Marine Vessels	The Federal Water Pollution Control Act	45
	Development of the Marine Insurance Industry	47
	Vessel Insurance Is Available	47
	Water Quality Insurance Syndicate	48
	Reasons Why Marine Insurance Is Generally Available	50
	Other Methods of Demonstrating Financial Responsibility	52
	Conclusions	53

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Chapter 5		55
Analysis of Possible Options and Recommendations to EPA	Options for Better Ensuring Financial Responsibility of UST Owners and Operators	55
	Conclusions	63
	Recommendations to the Administrator, EPA	64
	Agency Comments	64
<hr/>		
Appendixes	Appendix I: Comments From the Environmental Protection Agency	66
	Appendix II: Major Contributors to This Report	70
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Tables	Table 1.1: Financial Responsibility Levels Proposed by EPA	14
	Table 3.1: Methods Other Than Insurance for Demonstrating Financial Responsibility	34
	Table 4.1: Summary of Extent to Which Insurance and Other Financial Guarantee Mechanisms Are Used by Vessel Owners and Operators	48
<hr/>		
Figures	Figure 1.1: A Drawing of an Underground Storage Tank	9
	Figure 1.2: Description of Petroleum UST Population	10
	Figure 1.3: Description of the 651,000 Tanks Owned or Operated by Nonretail Motor Fuel Facilities	11
	Figure 1.4: Description of the 695,000 Tanks Owned or Operated by Retail Motor Fuel Facilities	12

Abbreviations

AIG	American International Group
CGL	Comprehensive General Liability
EIL	Environment Impairment Liability
EPA	Environmental Protection Agency
GAO	General Accounting Office
ISLIC	International Surplus Lines Insurance Company
PLIA	Pollution Liability Insurance Association
RCED	Resources, Community, and Economic Development Division
SARA	Superfund Amendments and Reauthorization Act
TPC	The Planning Corporation
UST	Underground Storage Tanks

Introduction

Almost every community in the country has underground storage tanks containing petroleum at facilities such as gas stations, bus stations, police and fire stations, airports, utility and construction companies, and car dealerships. The Environmental Protection Agency (EPA) estimates that thousands of them have begun to corrode and leak. Once a tank leaks, it can contaminate groundwater—a resource on which half of all Americans depend—making cleanup difficult if not impossible and costing thousands to millions of dollars. Leaking petroleum tanks can also cause fires or explosions that threaten human safety. Very low concentrations of some of the compounds found in gasoline, such as benzene, can cause cancer or toxic effects, or pose other risks to public health.¹ Although industry experts disagree, EPA has testified before the Congress that 1 gallon of gasoline leaking per day into a groundwater source can pollute the water of a community of 50,000.

Because of the potential danger to people and the environment, posed by leaking petroleum underground storage tanks (UST), under the 1986 Superfund Amendments and Reauthorization Act (SARA), the Congress specifically required EPA to develop regulations requiring petroleum marketers to (1) carry a minimum of \$1 million per occurrence in insurance or (2) otherwise demonstrate financial responsibility for this amount to pay for cleanups and any other damages arising as a result of tank releases.² The Congress has been concerned, however, that insurance and other forms of financial assurance may not be sufficiently available to cover tank leaks. In this regard SARA also required the General Accounting Office to conduct a study of the availability of pollution or leak insurance for petroleum underground storage and distribution facilities. The results of our study are presented in this report.

Background

Many older underground storage tanks—tanks that have at least 10 percent of their volume below ground, as shown in figure 1.1—were not protected against corrosion when they were installed in the late 1950s and early 1960s. Thousands of these bare steel tanks have corroded and are leaking now.³

¹As a result, EPA established a goal of zero parts per billion for benzene in drinking water. A part per million or per billion is extremely small—equivalent to a drop of water in a large swimming pool. People can taste gasoline at one part per million.

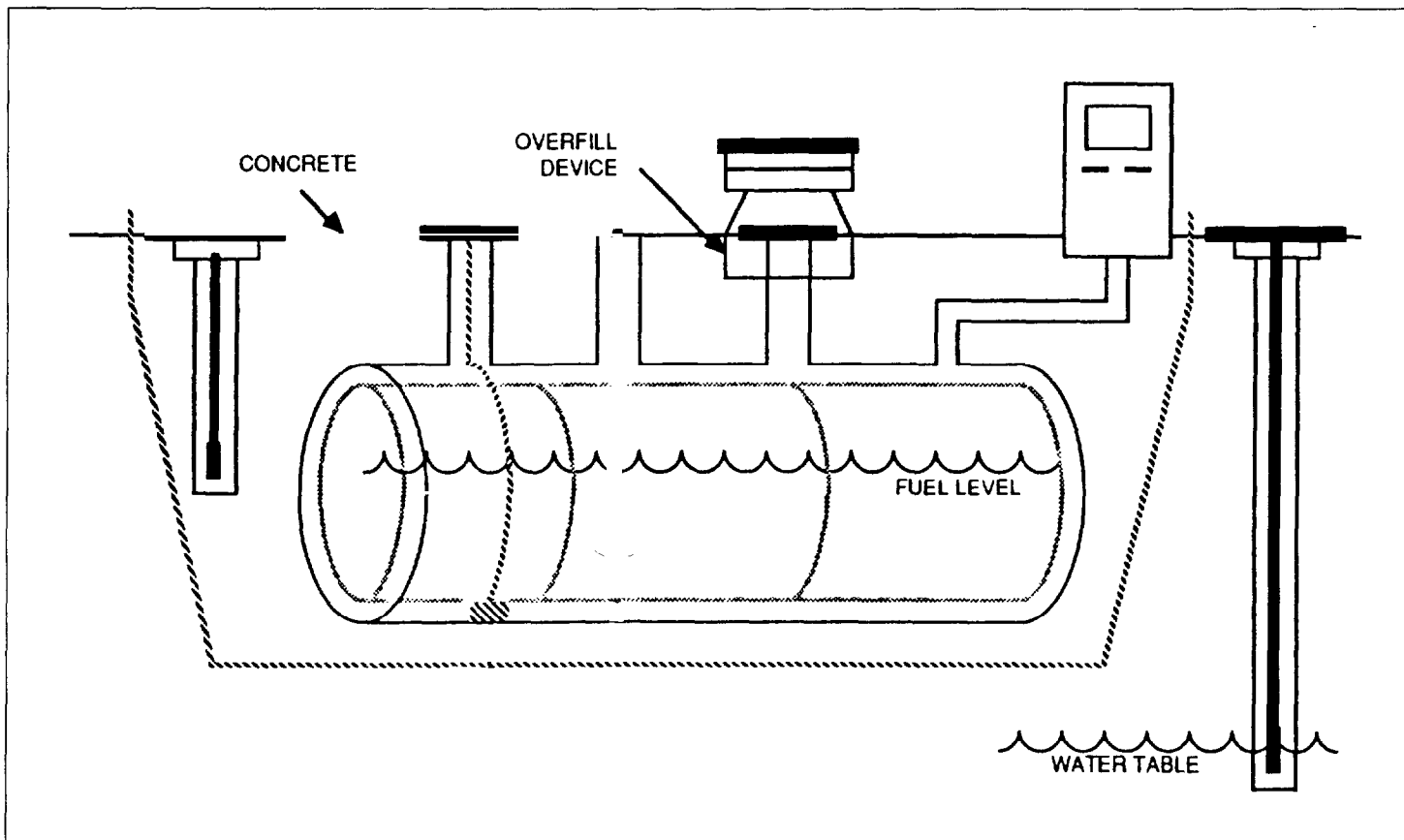
²Certain tanks are exempted, such as farm or residential tanks holding less than 1,100 gallons or those used to store a home's heating fuel.

³According to EPA, preliminary information indicates, however, a significant decline in sales of bare steel tanks over the last few years. As awareness of the risks posed by these tanks increases, sales are expected to decline further.

EPA estimates as many as 200,000 are currently leaking and expects more to leak in the future. Responding to the public threat posed by leaking underground storage tanks, the Congress first decided to regulate these tanks in the United States when it passed subtitle I as part of the 1984 Hazardous and Solid Waste Amendments.⁴

Subtitle I required EPA to issue regulations governing the prevention, detection, and correction of leaking underground storage tanks—commonly referred to as technical requirements—and allowed EPA to decide whether financial responsibility requirements were necessary. The 1984 act also provided that states could adopt their own UST programs by

Figure 1.1: A Drawing of an Underground Storage Tank

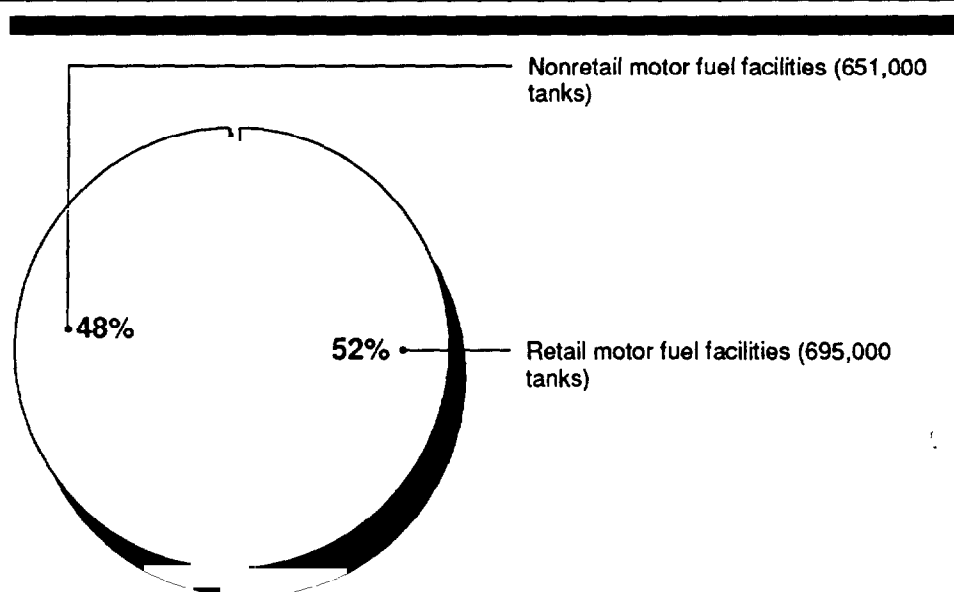


⁴The 1984 amendments also require EPA to regulate about 54,000 chemical underground storage tanks. EPA plans to issue proposed financial responsibility rules regulating them in the near future. This report is limited to a discussion of underground storage tanks containing petroleum products.

establishing state standards at least as stringent as the federal regulations. In October 1986, under SARA, however, the Congress amended subtitle I by setting a minimum financial responsibility requirement of \$1 million per occurrence for certain tank owners and operators and required EPA to promulgate regulations to implement this requirement. Additionally, SARA states that in developing these regulations, EPA may consider a variety of factors, including the impact of the rules on small businesses.

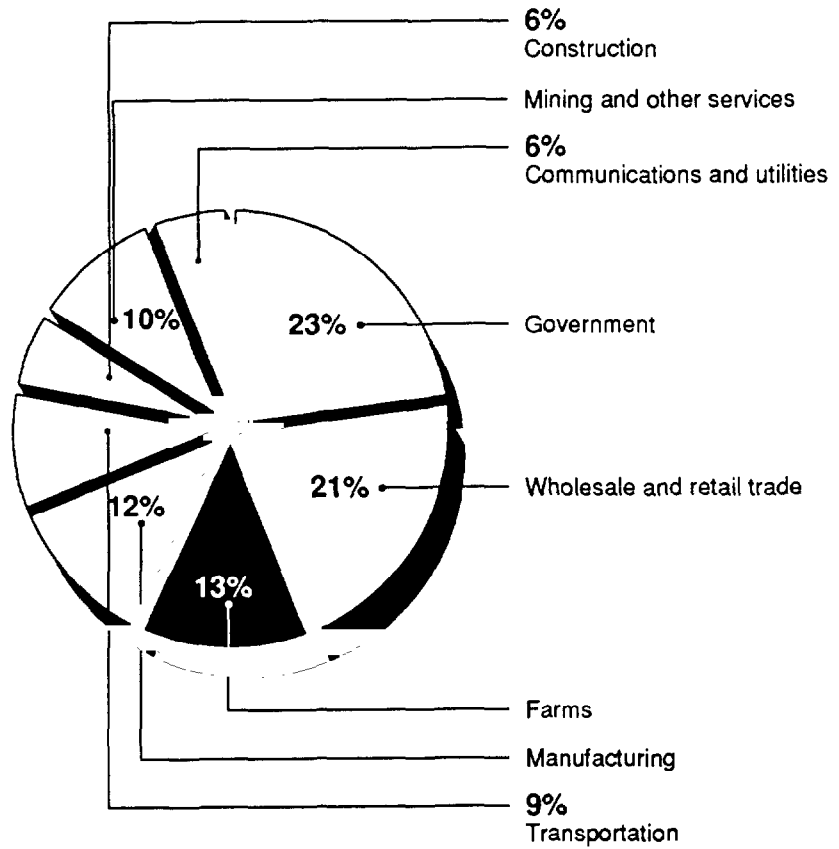
The UST regulated community consists of approximately 1.4 million tanks at 500,000 facilities split between the retail motor fuel sector and the nonretail motor fuel sector. The retail motor fuel sector is comprised of refiners; jobbers (who are primarily wholesalers of petroleum); convenience store chains; and independent gas station owners and operators. Nonretail motor fuel sector facilities store petroleum products in USTs generally for their own consumption rather than for retail sale. Facilities that fall in this category include local governments, utility, mining, construction, transportation, and communications firms. Nonretail facilities generally own fewer USTs per facility than firms in the retail sector, which have an average of 3 or 4 tanks per facility. Figures 1.2, 1.3, and 1.4 depict the petroleum UST population by industry sectors.

Figure 1.2: Description of Petroleum UST Population



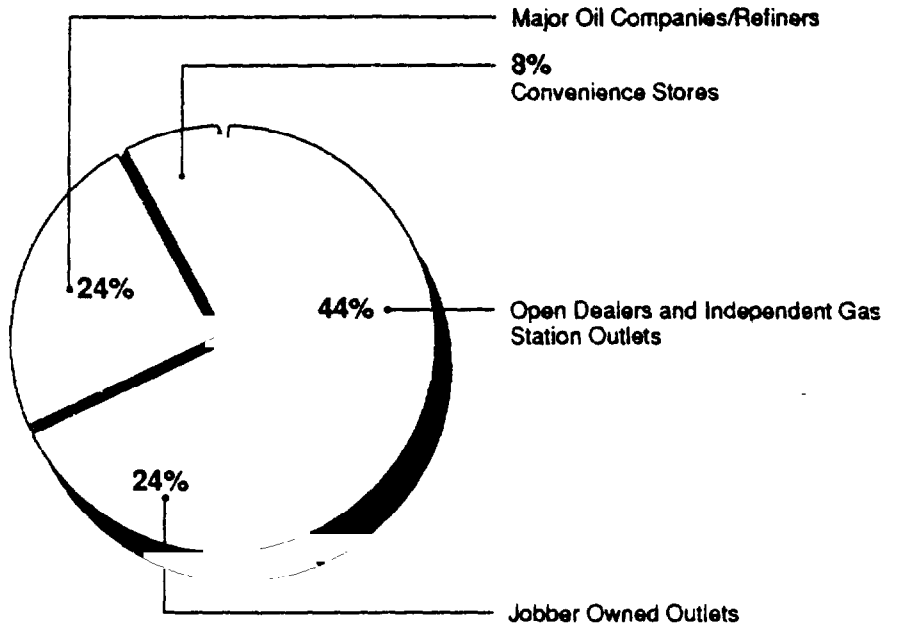
Source: Proposed rules on underground storage tanks containing petroleum: financial responsibility requirements, Federal Register, Volume 52, No. 74, Friday, April 17, 1987.

**Figure 1.3: Description of the 651,000
Tanks Owned or Operated by Nonretail
Motor Fuel Facilities**



Source: Proposed rules on underground storage tanks containing petroleum: financial responsibility requirements, Federal Register, Volume 52, No. 74, Friday, April 17, 1987.

Figure 1.4: Description of the 695,000 Tanks Owned or Operated by Retail Motor Fuel Facilities



Source: Proposed Rules on Underground Storage Tanks Containing Petroleum: Financial Responsibility Requirements, Federal Register, Volume 52, No. 74, Friday, April 17, 1987.

As a general rule, the Congress intended that tank owners or operators pay for cleanups resulting from tank leaks; EPA or states undertake corrective actions, in large part, when no owner or operator is willing or able to expeditiously undertake such action. Accordingly, the Congress under SARA, specifically required petroleum marketers to carry a minimum of \$1 million of insurance per occurrence or otherwise demonstrate financial responsibility to cover damages and corrective actions. SARA also granted EPA the discretion to set appropriate aggregate amounts of coverage. (EPA has defined aggregate amounts as the total costs within given year for all releases from tanks covered by a single financial mechanism.) Further, SARA gave EPA the discretion to (1) set lower limit for other facilities not engaged in the production, refining, and marketing of petroleum and that do not use substantial quantities of petroleum and (2) set higher limits for certain tanks if deemed appropriate.

SARA also gave EPA's Administrator the power to suspend enforcement of financial responsibility requirements for certain classes of USTs or in certain states if the owners and operators can demonstrate that insurance or other financial guarantees are not generally available. Classes of tanks

owners who try to obtain a suspension must also prove that they are taking steps toward forming a risk-retention group—a pool of individual tank owners or operators who band together to provide insurance for themselves—or that the state is creating a cleanup fund that can be used to demonstrate financial responsibility. A suspension of enforcement of the financial responsibility regulations would not relieve the tank owner of liability should a tank leak. It would relieve an owner from being subject to a fine of up to \$25,000 a day for failure to comply with financial responsibility requirements. The initial suspension is for 180 days. The suspension may be renewed if, among other things, tank owners show that they are making substantial progress towards forming a risk-retention group. EPA has proposed to make the renewal of the suspension increasingly more difficult to obtain each time.

Under SARA, the Congress also established a leaking Underground Storage Tank Trust Fund to provide up to \$500 million in supplemental cleanup assistance over a maximum of 5 years. The fund is being financed by an excise tax of 1/10 of a cent on motor fuels (including gasoline, diesel, aviation, and other fuels) to pay for response costs in a limited set of circumstances. More specifically, the fund provides supplemental cleanup capabilities where there is no solvent owner or operator or where the responsible party refuses to cooperate. The legislation establishing the fund includes provisions for recovering these costs from owners or operators. In addition, the fund may be drawn upon in emergency and catastrophic situations where the owner's or operator's resources, including the financial guarantee, will not be adequate to pay for the entire cleanup. Collection of the tax began in January 1987; as of September 1987, \$46 million had been collected. The Congress intended that the combination of a financial responsibility requirement and a fund to pay the costs exceeding the amount of insurance would encourage early reporting of releases and reduce financial uncertainty.

EPA expects states to play a major role in enforcing financial responsibility requirements because EPA believes state officials are closer to the scene and know more about local conditions and tanks in their states. In the past, because there were no national or even state standards for tank material and construction, installation, leak detection, and cleanup of releases, most responses to leaking tanks were handled at the local level in response to local fire codes. While some states, such as California and Florida, have been operating UST programs for several years, for the most part, many states have only recently enacted or plan to enact laws to specifically regulate USTs. As a result, although states could submit their UST programs to EPA for approval beginning in May 1987, no

state had submitted any plans for EPA approval as of November 1987, and EPA does not expect any submissions until 1989.

EPA's Proposed Financial Responsibility Requirements

On April 17, 1987, EPA published proposed rules, which it plans to finalize in June 1988, requiring tank owners or operators to purchase insurance or otherwise demonstrate financial responsibility for \$1 million to \$6 million, depending on the number of tanks owned.⁵ These funds would be used to pay for cleaning up leaked product, supplying drinking water, or relocating people and compensating third parties for bodily injury and property damage caused by releases from USTs containing petroleum. Table 1.1 shows the financial responsibility levels proposed by EPA.

Table 1.1: Financial Responsibility Levels Proposed by EPA

Dollars in millions	
Number of tanks owned or operated	Annual aggregate amount of coverage required
1-12	\$
13-60	
61-140	
141-250	
251-340	
341 or more	

According to EPA, the more tanks owned or operated, the greater the risks and the more aggregate coverage tank owners or operators will be required to have. Based on data from the two largest insurers of tanks, an EPA-sponsored study, and EPA's own estimates of corrective action costs, EPA believes that the proposed levels of financial responsibility should be adequate to cover the costs of corrective action and third-party liability costs for 99 percent of all leaks.⁶ Size and type of tanks were not considered in developing the aggregate amounts shown in table 1.1.

⁵State and federal owners or operators of USTs containing petroleum will not be required to demonstrate financial responsibility. EPA recognizes that these governmental entities are permanent and stable institutions that have the requisite financial strength to cover the costs of taking corrective action and compensating third parties.

⁶It should be noted that this 99-percent rule was not followed in the first category (1-12 tanks). For this rule to hold, the proper category should be 1-5 tanks; however, to minimize the economic impact on small businesses, this category was expanded to 12 tanks, as indicated.

According to an EPA official, enforcement of financial responsibility requirements will be delegated to the states. He also told us, however, that it will be at least 2 years before states will have their UST programs approved by EPA and be prepared to assume this responsibility. Under the proposed rules, tank owners or operators need to file documentation of their financial responsibility with EPA only when a new tank is installed; if a tank is suspected of or actually leaking; or if the financial assurance mechanism is in some way compromised. EPA or the state may also request to see financial records at any time. By law, tank owners and operators could be fined up to \$25,000 per day for failure to comply with tank financial responsibility requirements.

Under the proposed rules, EPA will permit one or a combination of the eight methods other than insurance, such as letters of credit, self-insurance, or guarantees to meet UST financial responsibility requirements. EPA expects, however, that the majority of tank owners will seek insurance to demonstrate financial responsibility. (The reasons the eight other methods will probably be used on a limited basis are discussed in chapter 3.) These proposed regulations also address many other aspects of financial responsibility, including allowable mechanisms, recordkeeping and reporting, and suspension of enforcement. If a tank is permanently taken out of service and any contamination cleaned up before the rules become final, the financial responsibility requirements will not apply.

EPA's Proposed Tank Technical Standards

EPA also issued proposed regulations on April 17, 1987, establishing requirements for owners of both new and existing USTs to control major causes of releases from tank systems. Major elements of these regulations include requirements to monitor tanks for leaks, upgrade or replace tanks, and report leaks to appropriate authorities. For example, the proposed regulations require that new USTs be properly installed and certified; protected from corrosion; equipped with devices that prevent spills and overfills; and have a leak detection system.

With regard to existing tanks—tanks already in the ground—the goal of the proposed regulations is to improve them over a 10-year period to meet the more demanding requirements for new USTs. The proposed regulations give the regulated community the flexibility to plan for and set their own priorities in upgrading their UST systems over the 10-year period. EPA intends this approach to encourage a more rapid upgrading to take place voluntarily. Certain leak detection requirements apply before the 10-year period ends. For example, because bare steel USTs are

the most likely to leak, owners of these tanks must install a leak detection device within 3 years. Owners of tanks that are protected against corrosion have up to 5 years to install leak detection devices.

Impact of Proposed UST Rules

Once both sets of regulations become effective, tank owners will be faced with the costs of complying with financial responsibility requirements and the costs of other technical requirements. EPA has estimated that the total cost of the proposed tank standards could be almost \$400 million annually over the next 10 years. EPA has estimated insurance costs per facility at \$2,000 to \$5,000. Further, the cost of installing leak detection systems ranges from \$1,600 to \$8,000 per facility. The costs of installing three new, more protective tanks at an average gas station could range up to \$82,000. EPA has estimated that the cost of cleaning up groundwater contaminated by a leaking tank generally ranges between \$75,000 to \$225,000 but could, in some cases, be higher.

Objectives, Scope, and Methodology

This is the third in a series of six GAO reports required by SARA. The first two reports were issued in October 1987 and concerned the availability of insurance for persons who generate or handle hazardous substances and the type and extent of skilled personnel shortages in EPA's Superfund program.⁷ The objective of this report is to provide the Congress with the study mandated by SARA, section 205, on the availability of pollution liability insurance and other financial assurance methods for owners and operators of petroleum storage and distribution facilities. Specifically, we were asked to

- assess the current and projected availability of tank insurance.
- consider the ability of tank owners or operators to maintain financial responsibility through methods other than insurance, and
- consider the experience of marine vessel owners and operators in getting insurance for similar liabilities under the Federal Water Pollution Control Act and the operation of the Water Quality Insurance Syndicate.⁸

⁷These reports are entitled Hazardous Waste: Issues Surrounding Insurance Availability (RCED-88-2, Oct. 16, 1987) and Superfund: Improvements Needed in Work Force Management (RCED-88-1, Oct. 26, 1987).

⁸The Water Quality Insurance Syndicate was formed in 1971 for the express purpose of insuring liability for the costs of the oil spill removal, which was imposed by the water act.

It is important to note at the outset that we found no industrywide quantitative data on pollution insurance or tank insurance. The latter is considered to be a subset of pollution liability insurance. Because direct, quantitative data were not available or considered proprietary by insurers, we generally relied on information obtained during interviews with a broad cross-section of the affected community, as well as with EPA headquarters staff within the Office of Underground Storage Tanks.

To assess the current and projected availability of pollution liability insurance, we met with the two major insurers of underground storage tanks to obtain data concerning their premiums, how they are determined, and other relevant information. We also contacted six companies that no longer offer this type of insurance to determine why they left the market and whether they have intentions of reentering. We also contacted all 50 state UST offices to determine if there were any localized or regional tank insurance problems.

In addition, we interviewed officials of the Service Station Dealers of America, the Society of Independent Gasoline Marketers, the Petroleum Marketers Association of America, and the American Petroleum Institute to obtain information on how the thousands of small, medium, and large firms they represent, which sell or produce petroleum products, plan to comply with EPA's proposed financial responsibility requirements. We also obtained information concerning their current activities in this regard. Moreover, we interviewed eight tank owners and operators in six states as well as officials at four major oil companies.

With regard to other financial responsibility methods, such as letters of credit, we reviewed the proposed regulations, various EPA studies, and GAO reports to evaluate how these various instruments operate; and determined their advantages and disadvantages as they relate to tank owners. We also ascertained the views of financial institutions that offer many of these instruments, as well as individual tank owners and operators, EPA, and others, as to their viability.

In considering the water act's financial responsibility program operated by the Coast Guard, we met with Coast Guard officials in Washington, D.C., within the Office of Marine Safety, Security, and Environmental Protection to determine how the program operates and to identify differences and similarities between its mission and that of the EPA's underground storage tank program. We also met with officials of the Water Quality Insurance Syndicate to obtain information on whether liability

Chapter 1
Introduction

insurance is currently available to owners and operators of marine vessels; whether it will be available in the future; and the extent to which financial responsibility has been maintained through other methods.

Our review was conducted from January 1987 through August 1987 and was performed in accordance with generally accepted government auditing standards. We sent a draft of this report to EPA for formal comment (see app. I).

Limited Availability of Tank Insurance

Tank insurance is generally unavailable despite the increasing demand for it and when available it has become increasingly more expensive. The increasing demand stems from a generally greater awareness of the risks, impending federal and possible state regulatory requirements, and requirements imposed by suppliers of petroleum products. A number of factors have, however, adversely affected insurers' ability and willingness to supply tank insurance. As a result, only a few insurance companies are currently offering tank insurance.

We identified two sources that provided virtually all of the tank insurance sold in the United States over the last 3 years. As of November 1987, only one firm still offered a substantial amount of tank insurance. In addition, over the last several years, at least six companies have withdrawn from or become inactive in the tank insurance market for various reasons, further illustrating the problems UST owners and operators face. Although two new firms entered this market in mid-1987, they have written only a few policies and offered coverage in a small geographic area or in amounts below the regulatory requirements. Several other firms have expressed their intentions to enter this market but are months away from offering policies.

Consequently, the near-term availability of tank insurance appears limited. Thousands of UST owners and operators—particularly those that own or operate one or two gas stations—will likely have serious difficulty obtaining insurance in the current limited market. The pros and cons of some possible options to address the general lack of insurance are discussed later in chapter 5.

The Insurance Industry and Pollution Insurance

Over the last two decades, as the nation became more aware of the actual and potential damages that pollution could cause, firms that make, use, or handle toxic substances found themselves increasingly subject to laws and regulations for potential liabilities arising from hazardous releases and therefore more in need of financial protection, such as pollution liability insurance.

Fundamentally, insurance is a device through which an individual transfers the risk of a financial loss imposed by an uncertain future event to a company that specializes in assuming such risks. By pooling the risks of many different individuals, the insurance company is able to predict fairly accurately the aggregate cost and timing of such losses. On the basis of such predictions, the company establishes the premium it will charge each individual in order to have sufficient income to cover its

losses, its normal business costs, and the profits it needs to earn to make staying in business worthwhile. In the absence of comprehensive data, the risk is assessed on a more subjective basis, as is the case with pollution risks. Pollution risks are therefore not as predictable as some other types of risks, such as automobile insurance.

The process of deciding whether to accept or reject a particular customer is known as the underwriting function. When a company believes that the expected cost of insuring a given individual may exceed the premium the company can earn, it will probably refuse to insure the individual.

Pollution insurance is a very small component of property/casualty insurance, which includes, among other things, workmen's compensation; homeowners and auto insurance; and specialty insurance lines. About half of the overall insurance industry is comprised of property/casualty insurance and the other half is comprised of life and health insurance. In 1985, the insurance industry wrote \$154.3 billion in direct premiums for property/casualty insurance. On the basis of our discussions with insurers we identified as writing pollution insurance, we estimate that about \$65 million—less than one-half of 1 percent—was for all types of pollution or environmental liability insurance.¹ Tank insurance is a subset of pollution insurance and therefore represents a smaller component of the total industry market. We estimate that 1986 premiums for tank insurance written by the two principal providers accounted for about \$27 million.

Profitability in the insurance industry is determined by combining both the underwriting results and investment results. We found that despite incurring substantial underwriting losses over the 10-year period from 1976 through 1985, the property/casualty industry more than offset those losses with investment gains. As we noted in a 1986 report² examining the cyclical nature of the property/casualty insurance industry, the most recent loss cycle was more protracted in duration than usual, with underwriting losses resulting every year since 1980. The continuation of industry's underwriting losses was exacerbated by the industry's cash flow underwriting pricing strategy, which relied upon investment

¹Unlike larger components of property/casualty insurance, which the industry tracks individually, because pollution insurance is so small, it is grouped with other specialty types of insurance in the miscellaneous category.

²Tax Policy: Financial Cycles in the Property/Casualty Industry (GAO/GGD-86-56FS, April 9, 1986)

income to overcome underwriting losses. Basically, companies were willing to accept lower premiums for certain insurance lines in order to encourage sales and obtain funds for investment. This strategy changed as underwriting losses became unacceptably high.

While industry data indicate that earnings improved substantially in 1986, it should be noted that trends in the pollution insurance market may differ from overall industry trends. The recovery in the insurance cycle that is indicated to have taken place probably does not reflect what has happened in the pollution insurance market. Insurers told us that this market has not made any significant recovery, although others argue that a broad market for pollution policies never really existed.

Types of Pollution Liability Coverage Offered

Before everyone involved began to realize the large potential risks posed by toxic substance pollution, insurers offered policies providing comprehensive general liability (CGL) coverage for many kinds of risks, potentially (but not specifically) including pollution releases. CGL policies generally covered the insured for bodily injury and property damage to third parties. These policies were generally occurrence-based, which means that the coverage remained in force even though the release or damages from it were discovered after the policy had lapsed. This feature extended the insurer's liability sometimes for many years, as damages from undiscovered, gradual releases began to surface.³

In the 1960s, as awareness of potential pollution risks grew, the insurance industry began an ongoing process of revising, redefining, and limiting its pollution coverages. For example, insurers added a pollution exclusion clause to CGL policies that attempted to limit liability to sudden and accidental releases rather than gradual ones. In the past few years, they have also changed the terms under which a claim could be presented in certain CGL policies from occurrence-based to claims-made. Under the claims-made type of policy, claims for damages could generally be made only during the life of the policy, not years later.

During the 1970s, some insurers developed an entirely separate Environmental Impairment Liability (EIL) insurance policy specifically to cover third-party damages caused by pollution. Some of the terminology in the policies was crafted with coverage for pollution in mind. However, because the coverage is still relatively new, the precise scope of

³Damages, particularly personal injuries such as cancer, can take years to develop after a person has been exposed to toxic substances.

the EIL coverage is difficult to determine. In addition, the terms and conditions of EIL coverage may vary substantially among company policies and even within a company from client to client. Virtually all EIL policies for USTs are issued on a claims-made basis and generally cover damages caused by the release of petroleum.

Reinsurance for Pollution Risks

Insurers spread the risks of insuring potential losses by selling a portion of those potential losses to reinsurers in exchange for a portion of the premium. As we reported in October 1987,⁴ the availability of reinsurance for hazardous waste pollution risks appears to be limited, according to the five major reinsurers and a reinsurance broker with whom we spoke. We could identify only two companies that currently offer such reinsurance, and then only on a very selective basis. In the opinion of these representatives, reinsurance for pollution liability risks has declined sharply since 1984, when foreign reinsurers began leaving the market.

Two Major UST Insurance Suppliers

According to a September 1984 EPA-funded study, the demand for tank insurance has been increasing and is expected to continue to rise because the problems associated with leaking USTs have become widely noted recently and because the Congress, states, and EPA have begun to impose financial responsibility requirements on tank owners and operators. As mentioned in chapter 1, USTs were, to a large degree, unregulated prior to 1984. What regulation existed was generally administered at the local level in response to local fire codes. As a result, tank owners did not have to adhere to a specific tank management program such as is currently being required routinely as a condition for obtaining insurance.

We identified and obtained information from two companies that provided significant amounts of tank liability insurance in response to this growing demand over the past 3 years. Other firms had substantially smaller programs. Together, these two firms each provided insurance to owners of about 100,000 tanks, or insured about 30 percent of the 695,000 tanks subject to regulation in the retail motor fuel sector. Of the 1.4 million tanks subject to proposed regulations, about 14 percent were covered by these insurers.

⁴Hazardous Waste: Issues Surrounding Insurance Availability (RCED-88-2, Oct. 16, 1987).

Federated Mutual Insurance Company and the Planning Corporation

For at least 3 years prior to mid-1987, the two principal suppliers of UST insurance were Federated Mutual Insurance Company and The Planning Corporation (TPC). In July 1987, TPC terminated its tank insurance program for the reasons discussed below. The Planning Corporation specializes in the development, installation, and administration of mass-marketing insurance programs for trade and professional associations such as petroleum marketers. TPC then sells its insurance program to an insurance company that issues the actual policies. TPC has operated in this fashion since 1982 and used the International Surplus Lines Insurance Company (ISLIC) exclusively over the past 2 years to handle its insurance program for petroleum marketers. However, the success of TPC's insurance program rested with ISLIC's reinsurance arrangement with the Pollution Liability Insurance Association (PLIA). PLIA is an association of about 20 insurance companies which reinsures the pollution businesses written by its members. Because of problems between PLIA and ISLIC, as of July 1, 1987, ISLIC stopped writing tank insurance policies under TPC's insurance program. TPC is currently assisting some petroleum marketers in establishing a risk-retention group that is targeted to begin operation in January 1988.

The tank insurance policies of both Federated and TPC generally covered government-ordered on-site and off-site cleanup expenditures and third-party liability awards. Federated offers pollution liability coverage only as part of a complete liability package—including, for example, workmen's compensation and general liability—and has no reinsurance arrangement. TPC's insurance program, on the other hand, offered tank coverage only as a separate policy. All policies were written on a claims-made basis.

The essential features of the tank insurance programs offered by these two firms for petroleum USTs are as follows:

- The Planning Corporation (through ISLIC) offered policy limits of \$2 million per occurrence and \$4 million annual aggregate in 1986 but dropped to \$1 million per occurrence/\$2 million aggregate in 1987. Federated offered policy limits of \$1 million per occurrence and \$2 million in aggregate during this same time. (Both firms had offered policy limits of \$10 million in 1985.)
- TPC operated nationwide; Federated had offices in about 36 states, not including the New England area, Alaska, and Hawaii.
- Premiums charged by Federated ranged from \$250 to \$1,500 per retail outlet in 1987 and continue to rise. Premiums charged under TPC's program ranged from \$400 to over \$2,000.

- Deductibles averaged \$50,000 and ranged from \$5,000 to \$500,000 on policies under TPC's program. Generally there were no deductibles associated with Federated policies until November 1987, when a mandatory \$25,000 deductible was instituted on all Federated tank policies.
- General condition of tanks including tank age and construction (e.g., steel vs. fiberglass), management practices such as daily inventory control, and having multiple locations were principal factors in deciding to insure tanks.

According to these two firms, claims incurred have averaged less than \$30,000 for one of them and between \$80,000 and \$100,000 for the other firm; most were under \$25,000. As of August 1987, the largest claim incurred by one insurer was about \$3,500,000 and the other was about \$500,000. Virtually all claims paid have been for cleanup; only a few claims were for third-party property damage. No claims have been paid by the two firms for bodily injury. However, according to the vice president of TPC, frequency and value of claims and the incidence of third-party liabilities have increased sharply over prior years. Loss experience for both insurers has worsened over the last several years, to a large extent, as a result of state regulations and oversight and increases in cleanup costs, due also, in part, to additional state involvement, according to the insurers.

The two principal sources of tank insurance gave us the following reasons they had been willing to insure tanks:

- The market consisted of a large number of small and medium-size risks. Losses are frequent but not severe, averaging less than \$30,000 to \$100,000 to clean up.
- Losses are typically limited to cleanup with few if any third-party claims.
- Losses are reported soon after they occur and cleanups are normally completed soon after.
- The exposure is homogeneous—limited to only petroleum spills.
- The underground storage tank provision of the statute imposes liability only on tank owners or operators; therefore, joint and several liability does not apply.⁵

⁵The standard of joint and several liability has been applied to hazardous substance cleanup under Superfund. Under joint and several liability, although a number of parties may have contributed to the presence of hazardous waste at a site, one responsible party can be held liable for the entire cost of cleanup, not just for that portion that can be attributed to that party.

- Gasoline is detected by taste or smell, even in minute quantities. Therefore, it is easily detectable and is not likely to be ingested by individuals, particularly over a period of time.

Although TPC no longer provided tank insurance through ISLIC as of July 1987, TPC is now assisting certain tank owners in developing a risk-retention group. Federated plans to continue to provide tank insurance. Federated officials told us that they are quite content with their share of the market at the present time. As a result, Federated has no plans to increase its market share or policy limits and coverage, nor does it plan to decrease its market share. In addition, PLIA—the reinsurer for TPC's insurance program—is still in existence and is trying to enlist other insurance brokers to develop insurance programs such as TPC's. One such example is discussed later in this chapter.

Several Insurers No Longer Provide Tank Insurance

Despite policy revisions, by the mid-1980s insurers were maintaining that the combination of the inherent riskiness of insuring against pollution releases, judicial decisions involving liability standards and insurance contract coverages, and broad liability established by federal environmental laws made it difficult to write new pollution insurance, including tank insurance, at a profit. As a result, numerous firms that once offered EIL insurance for underground storage tanks stopped offering it or tank owners did not purchase it because it was very expensive. We obtained information about tank insurance policies offered by six insurance companies that have withdrawn from or are no longer active in this market. With one exception, they are not interested in reentering the market.

American International Group

The American International Group (AIG) of New York, the principal current supplier of pollution insurance, is the holding company for about 110 member companies. AIG began writing EIL coverage in 1980 and wrote an estimated \$40 million in pollution premiums in 1986. AIG currently insures pollution risks at land disposal facilities, chemical companies, electronic companies, aircraft companies, and petroleum terminals. In a January 1987 meeting, AIG officials told us that AIG no longer insures underground storage tanks although it served a minimal share of the market from 1980 to 1984. Premiums charged for this type of coverage ranged from \$350 to \$2,000 per station. Premiums were determined using a number of factors, including tank age, location, type of tank, and what type of integrity testing was done. When AIG realized the potential problems associated with insuring tanks, it discontinued this

coverage. AIG indicated, however, that it currently provides a limited amount of tank coverage on an incidental basis to clients that have newer tanks and purchase other AIG coverage.

An AIG official told us that AIG has no definite plans at present to reenter the market for UST pollution liability insurance, but may sell this coverage again if “market conditions,” change. This official did not elaborate on the meaning of “market conditions,” explaining that it was difficult to define. AIG officials told us that because federal and state regulations have imposed or will impose high safety standards on the construction and use of tanks, they do not see any reason why well-built and properly managed USTs cannot be operated safely and insured.

If AIG were to develop a market, we were told that underwriting guidelines would be very restrictive, possibly covering only new tanks. Existing tanks would be insured only if certain requirements were met and tank testing and installation requirements would be very important.

Oilmen’s Insurance Company, Inc.

Oilmen’s Insurance Company, Inc., located in New York City, provides property and casualty insurance for petroleum marketers. Policies are written and claims service provided by Fireman’s Fund Insurance Companies. In 1985, Oilmen’s insured approximately 700 independent petroleum marketers, owning 2,100 to 3,200 gasoline retail outlets. Prior to September 1985, pollution coverage for USTs was included under a CGL policy, but after that date it was sold as a separate policy. Coverage limits for pollution liability were \$500,000 per incident and \$1 million in aggregate. Since Oilmen’s was established in 1983, fewer than 30 claims for underground storage tanks leaks have been filed, according to a Fireman’s Fund official. These claims ranged from a low of \$5,000 to not more than \$200,000.

According to an Oilmen’s official, in 1986 the company sold only one or two pollution policies for tank leaks, primarily because its policy was not as competitive as other insurer’s. The official gave a number of reasons for the limited interest in Firemen’s policies, including the following:

- The policy limit is set at \$500,000, which is considerably lower than the two other primary providers of this coverage and is more expensive. It is also less than the congressionally mandated \$1 million minimum.
- Oilmen’s underwriting policies and practices are stricter than its competitors’.

Shand, Morahan, and Company, Inc.

Shand, Morahan of Illinois is an underwriting management firm; the Evanston Insurance Company provides its main source of business. In 1979, Shand, Morahan developed a pollution liability insurance program and put its program on the market in 1980 as the first domestic company to offer pollution liability insurance in the form of EIL coverage. Shand, Morahan offered a monoline coverage for pollution liability insurance and covered all environmental risks (except marine risks), including underground storage tanks containing petroleum products.

Although business had peaked by 1984 and Shand, Morahan had about 30 to 40 percent of the overall EIL market, because of concerns about enormous potential future losses and court rulings which expanded insurance coverage, Shand, Morahan decided to no longer offer EIL insurance, including tank insurance, after 1984. Shand, Morahan told us that it still has the same concerns and does not plan to reenter this market, nor does it expect other insurers to do so.

Other EIL Insurers Who Withdrew From the Market

We identified three other insurance companies that have also pulled out of the EIL/UST insurance market, except to provide coverage to long-term preferred clients who have other insurance coverage with these companies. These firms are the Travellers Insurance Company, Liberty Mutual, and Hartford Steam Boiler Inspection and Insurance Company. Hartford Steam Boiler, formerly one of the larger EIL insurers, told us it withdrew from the EIL market during 1984 because it feared tremendous future losses. The other companies, which had relatively smaller shares of the market, expressed similar reasons for leaving this market and have no intentions of expanding their insurance coverage in this market.

Several New Firms Offered UST Insurance in 1987

In 1987, several new firms provided pollution liability insurance for underground tanks. In addition, several other firms have plans to provide tank insurance in the future, but they are several months away from issuing policies.

One company that entered this market in 1987 is MSI Insurance, located in Minnesota. MSI sells insurance in a five-state region and is considering expanding to include some Western states. Its policy limits are generally relatively low—\$100,000 per occurrence and \$300,000 in aggregate, which is considerably less than the \$1 million minimum per occurrence set by law and the \$6 million maximum aggregate level proposed by EPA. According to an MSI official, however, policy limits up to

\$3 million in aggregate are available for large firms with multiple locations. Its claims-made, EIL policy covers third-party liability but does not cover corrective action costs. MSI will not insure tanks more than 20 years old and requires that the tanks be tested.

Kapnick & Co., Inc., an insurance broker that sells insurance through Michigan Mutual Insurance Company (which is reinsured through the PLIA), is the other new company. Like MSI, it issues a claims-made, EIL stand-alone, tank insurance pollution liability policy. Its operation is much like TPC's, and, in fact, the idea to offer tank insurance came as a result of TPC's leaving the market. Kapnick prefers to sell UST coverage as part of a larger package of insurance but will sell it alone. To date, Kapnick has primarily targeted petroleum retailers, but it is considering insuring tank owners in the nonretail motor fuel sector such as car dealerships and school bus systems.

Kapnick, which is located in Michigan, began offering tank coverage in July 1987. It has written only four policies to date but will be making site visits to 125 other potential customers to give them quotes on the cost of insuring their tanks. Its policies cover cleanup off-site, bodily injury, and property damage and are written primarily in Michigan, Indiana, and Ohio for purposes of manageability. The policy limits currently are \$2 million per occurrence and \$3 million in aggregate and may increase to \$6 million.

According to a Kapnick official, a \$1 million policy—which can cost between \$1,000 and \$5,000—seems to be the most popular level of coverage right now. Premiums are quoted on a per location basis. There is a minimum deductible associated with the policies of \$2,500 for a single location, which increases with the number of stations owned. For example, a 10-location insured might have a \$10,000 deductible. Age and type of tanks are important factors in Kapnick's decision to insure tanks and determining the premium charged for the coverage; other factors considered include proximity to groundwater, inventory controls, and type of pumping system. As a general rule, Kapnick does not insure tanks more than 20 years old.

Experience of Gas Station Owners and Jobbers in Obtaining UST Insurance

To obtain the views of actual UST owners, we contacted eight firms located in Massachusetts, Vermont, Maine, Connecticut, Florida, and Wisconsin. Firms were referred to us by state environmental officials and various trade associations. Because these firms were not randomly selected and because we spoke with only eight firms, their views may not be representative of all gas stations owners or jobbers. The Northeast is overrepresented in our discussions because one of the two major providers of UST insurance pulled out of this geographic area, making insurance availability a highly visible problem there. As a result, trade associations were more aware of firms in this region that were experiencing problems and were willing to talk to us.

The eight firms selected were considered small, medium, and large, owning 1 to 750 USTs. Each of these firms has been in business for at least a decade and has annual revenues ranging from \$1.5 million to \$150 million. Two of the firms are currently without tank insurance. The remaining six firms have current tank insurance coverage primarily through The Planning Corporation; however, their policies will expire by June 1988. All eight firms are concerned about how they will be able to demonstrate financial responsibility at the levels proposed by EPA, particularly now that there is only one major supplier of UST insurance whose limits are substantially lower than many of the limits proposed by EPA.

All of the firms told us that it is extremely difficult to obtain adequate pollution liability for USTs at any price. One firm told us, for example, that it had contacted 44 insurance companies and was unable to find any coverage. Other firms said they relied on their insurance brokers to find tank insurance for them. Some of the brokers contacted as many as 20 insurance companies before they were successful in obtaining tank insurance. Three of the eight firms noted that their coverage had been canceled, primarily because the insurer discontinued offering UST coverage. One of the three was able to find other coverage.

Overall, the firms believed that not only has tank insurance become increasingly more difficult to obtain, but also it has become more expensive. For example, one small company's premiums tripled between 1986 and 1987. In 1986, it paid \$3,000 for a policy with a \$4 million limit and a \$10,000 deductible. In 1987, the same insurer charged a \$10,000 premium for a \$2 million maximum policy with a deductible of \$25,000. In another example, an insurer's premium increased from \$11,000 in 1984 to \$14,000 in 1985 to \$29,000 in 1986. Correspondingly, the coverage

dropped from a maximum of \$9 million in 1985 with a \$10,000 deductible to a maximum \$4 million policy with a \$50,000 deductible in 1986. Another firm's premiums increased from \$10,000 in 1985 to \$25,000 in 1986 to \$73,000 in 1987, while the coverage continued to decline. According to officials of these companies, they had neither experienced any claims nor increased the number of tanks covered by the policies. They told us the policies only covered underground storage tanks and not other aspects of their operations.

None of the firms we interviewed considered any of the other methods of demonstrating financial responsibility permitted by the law as viable options: they either did not have the financial resources to qualify for them or could not afford to have resources tied up. According to the firms, insurance was the only real option, and they believed that the lack of insurance would drive some marginally profitable stations out of business, thereby strengthening the dominance of the major corporations. To remedy this problem, they almost all suggested the creation of a federal fund or an amnesty program. The pros and cons of these and other options are discussed in chapter 5.

Lack of Insurance Will Affect Thousands of UST Owners

EPA has estimated that approximately 65 percent of the tank owners who would be subject to regulation would be unable to comply with proposed financial responsibility requirements if they were imposed in mid-to late-1988. According to EPA, insurers, and others we spoke with, thousands of UST owners and operators in the following categories will have serious difficulty in obtaining insurance in the current limited market:

- Persons who own or operate one or two stations, accounting for 80,000 to 85,000 retail outlets.
- Owners of USTs who do not meet underwriting criteria, particularly those with tanks over 15 years old or who do not follow certain management practices, such as regularly keeping track of petroleum deliveries and sales as a means of detecting losses due to leaks. (The specific number of tank owners in this category is not known.)
- Small businesses in the nonretail motor fuel sector, such as car dealerships.

Most jobbers, independent chain marketers, and convenience store owners have generally been able to obtain pollution liability insurance for their USTs, according to the insurers, EPA, and various industry associations. In addition, major oil companies and other major corporations,

who own more than 175,000 tank, can generally meet financial responsibility expenditures from their own resources (self-insure) and thus do not need to purchase insurance.

According to TPC, UST owners with a single service station have not historically been interested in purchasing tank insurance because there was no requirement or because they did not meet insurers qualifications. In addition, a TPC official told us that his company has not pursued this market vigorously because it is very costly, administratively to go after smaller accounts. EPA estimates that virtually all of the 80,000 or more UST owners in this group cannot obtain tank insurance. The Service Station Dealers of America, which represents most of the gas station owners and operators who own one station, polled its membership in 1986 and found that only 16 percent of those responding had tank insurance.

In addition, insurers generally consider tanks 15 to 20 years old to be highly susceptible to leaking. Accordingly, the two major sources of tank insurance will either not insure tanks in this age range or impose a substantial surcharge to cover them.

To determine how the nonretail motor fuel sector would be affected under EPA's proposed financial responsibility rules, we contacted about 25 associations and several large companies. In general, we found that most of these groups had very little or no data pertaining to the number, type, age, size, and insurance arrangements of tank owners in their industry. Two associations had, however, conducted limited surveys of their members, as follows:

- In 1987, the National Association of Fleet Administrators found from 87 responses to its survey of 130 government and utility company car fleet members that 18 (21 percent) had pollution liability insurance for USTs; 23 (26 percent) were self-insured; and 46 (53 percent) had no coverage of any kind.
- At least 60 percent of the membership of the National Association of Truck Stop Operators had tank insurance as of January 1987.

Representatives of tank owners in the nonretail motor fuel sector told us that their members are particularly concerned about their ability to comply with proposed financial responsibility regulations. Insurers have indicated that they are not interested in insuring their tanks because very little is known about their tank management practices. Several association representatives told us that to deal with this situation some of their members have decided or are considering no longer using and

permanently closing their tanks to avoid being subject to UST financial responsibility requirements. From an environmental protection standpoint, this may be the most appropriate outcome.

Conclusions

Currently, the supply of pollution liability insurance for the nation's 1.4 million tanks is quite limited. Major corporations—which account for at least 175,000 tanks in the retail motor fuel sector and an unknown number of tanks in the nonretail motor fuel sector—generally have financial resources sufficient to self-insure and do not have to purchase insurance. For most of the remaining tank community, however, Federated is the only insurance industry source that provides a significant amount of pollution insurance for USTs, insuring about 100,000 of the 1.4 million tanks in the United States. A few other companies write tank insurance, but the policy limits are low. Several firms have expressed their plans to provide tank insurance in the future, but they are several months away from issuing policies. Past insurers told us that they generally are not interested in reentering this market. As will be discussed in chapter 3, most tank owners do not view other methods of demonstrating financial responsibility, such as letters of credit, as viable. Their reasons and the pros and cons associated with methods other than insurance are discussed in the next chapter.

Because of the current state of the tank insurance market, thousands of tank owners will not be able to comply with upcoming financial responsibility requirements by purchasing insurance. How many is difficult to quantify at the present time. Small businesses in both the retail and nonretail motor fuel sector are very likely candidates for noncompliance. Given the limited insurance market, some solutions seem warranted to assist tank owners in meeting financial responsibility requirements. A number of options are presented in chapter 5.

Methods Other Than Insurance for Demonstrating Financial Responsibility

EPA's proposed financial responsibility requirements allow owners of USTs to use one or a combination of eight methods other than insurance to demonstrate financial responsibility (see table 3.1). However, EPA recognizes that some methods will not be widely available or used by UST owners. EPA expects that most tank owners will try to use insurance to demonstrate financial responsibility to the extent it is available. A major reason for the limited use of several of the methods is that financial institutions that need to be involved with most of these mechanisms are reluctant to participate because of the potentially enormous losses they believe are associated with pollution risks such as leaking tanks. In addition, many UST owners' limited financial resources preclude them from qualifying for some of the other methods. According to EPA and others we spoke with, if insurance is not available, self-insurance, risk-retention groups (once they are established), and state cleanup trust funds appear to be the most practical and viable of the mechanisms for a limited number of UST owners.

A number of other methods, including guarantees, indemnity contracts, surety bonds, and letters of credit, are not expected to be used much because they are not traditional means of providing compensation to third parties for bodily injury and property damage. In addition, unlike insurance, no organized system of claims settlement exists in connection with some of these mechanisms. EPA, however, is permitting their use to afford tank owners and operators with as many options as possible since insurance is generally unavailable. Table 3.1 defines the eight methods other than insurance.

Table 3.1: Methods Other Than Insurance for Demonstrating Financial Responsibility

Method	Definition
Financial test of self-insurance	A firm must demonstrate that it has a large reserve of assets which is adequate to meet its obligations.
Risk-retention groups	Groups or associations of individuals who generally face a similar risk form pool to provide liability coverage the members, usually because it is not available otherwise. They function much like insurance companies.
State cleanup funds and other state assurances	State-financed programs are permitted by the proposed financial responsibility rules if they have been approved by EPA.
State-required mechanism	Tank owners and operators may use a mechanism which does not exactly resemble any federally required mechanism, if EPA has determined that it provides sufficient assurance of financial responsibility.
Letter of credit	A bank or other financial institution issues an instrument which essentially provides a line of credit to meet monetary obligations of the customer if the customer fails to do so.
Guarantee	One firm promises to pay specified debts or perform specified obligations of another firm in the event the first party fails to perform.
Indemnity contract	A contract between two firms under which one firm promises to pay actual losses or damages which might be sustained by another firm in the future.
Surety bond	A surety company makes an agreement with a tank owner, guaranteeing that if the tank owner fails to perform corrective action or compensate injured third parties, the surety will perform.

Financial Profile of Tank Owners and Operators in the Retail Motor Fuel Sector

The feasibility of using financial assurance mechanisms other than insurance, such as self-insurance or letters of credit, is closely tied in many cases to the financial strength and stability of tank owners or operators. A May 1986 study,¹ done under contract for EPA and updated in 1987, profiled the financial condition of about 90,000 firms that own and operate retail motor fuel outlets and made several findings in this regard. These findings help illustrate why methods other than insurance have limited appeal or application to many tank owners and operators who do not have the financial resources to procure them. The following are some of the study's principal findings:

- Firms in this sector vary from very small to very large; however, most are very small with 90 percent of the total universe of approximately 90,000 owning only one outlet.

¹This study, Financial Responsibility for Underground Storage Tank Releases: Financial Profile of Retail Motor Fuel Marketing Industry Sector (EPA Contract No. 68-01-7053), was prepared by Meridian Research, Inc., and Versar, Inc.

- About 98 percent of the firms (about 87,600) have assets of less than \$1 million; about 94 percent have assets of less than \$600,000.
- About 80,000 firms, known as open dealers, generally own only one station, have total assets of about \$210,000, and earn about \$14,000 in annual after-tax profits. EPA stated in its proposed regulations that open dealers generally have a net worth of \$90,000.
- Jobbers have assets in the range of \$300,000 to \$9 million.
- Very few firms (about 2,140) have assets in the \$1 million to \$1 billion range, which is too small for refiners but too big for jobbers.
- Less than 1 percent of all firms in the retail motor fuel sector have assets over \$1 billion. The 27 firms in this category are refiners and the largest convenience store chains.

EPA's proposed regulations automatically presume that UST owners that have a net worth of \$200,000 or less (which would be most of the 80,000 open dealers) will generally not be able to obtain letters of credit, surety bonds, or pass the financial test of self-insurance.

Analysis of Methods Other Than Insurance

This chapter describes methods or instruments other than insurance that could be used to ensure that funds will be available for corrective actions and third-party liability costs arising from leaking USTs. It also evaluates their potential performance in the UST context and assesses their advantages and disadvantages. Our audit work indicates that self-insurance for large firms, state cleanup funds where they exist, and risk-retention groups (if established) will probably be used to a greater extent than other methods.

Financial Test of Self- Insurance

In the case of USTs, the most significant aspect of the test included in the proposed regulations is demonstrating that the owner or operator has a tangible net worth² of at least 10 times the annual aggregate amount of insurance coverage required (making between \$10 million and \$60 million of net worth required). The requirement of 10 times the aggregate will probably restrict the use of this mechanism to only large, financially stable, publicly held corporations such as major petroleum refiners (which own a total of about 175,000 tanks), or national car rental agencies, bus companies, or utility companies (which own an unknown number of tanks). According to EPA, nearly 9,000 jobbers and 80,000 independent chain operators and open dealers will not be able to qualify

²EPA defines "tangible net worth" as the value of assets that remain after deducting the amount of liabilities and intangible assets, such as goodwill and rights to patents or royalties.

for the financial test of self-insurance as it is currently proposed nor will an unknown number of small to medium-sized firms in the nonretail motor fuel sector.

If a firm can qualify as a self-insurer for the full amount of required coverage, it would not have to buy insurance or any other financial assurance mechanisms. In devising the financial test of self-insurance, EPA wanted to ensure that 99 percent of the self-insuring firms will be able to meet corrective action and third-party obligations once incurred.³ The use of a multiple of 10 times the aggregate coverage required, according to EPA, would ensure that a failure rate of 1 percent would not be exceeded. This test for self-insurance will also be used to qualify entities that wish to provide guarantees and indemnity agreements to firms that own USTs.

As indicated above, large and financially viable firms that own USTs are the most likely candidates to self-insure against the risk of leaking USTs. Representatives of four major oil companies who own approximately 48,000 tanks told us that it will not be difficult for their companies to comply with EPA's proposed financial responsibility requirements. They said it would be done primarily through self-insurance and/or with comprehensive liability insurance or excess insurance coverage for catastrophic situations. In fact, all of them told us that as a prudent business practice they currently provide, in some way, for the possibility of leaks. They said further that they had been maintaining financial responsibility for potential leaks and upgrading their tanks for many years prior to EPA's proposed regulations.

Representatives of major oil companies also pointed out that insurance is generally not available to cover on-site cleanup costs and therefore they have always had to self-insure for this aspect of the risk. According to these officials, major oil companies that have insurance are covered only for third-party liabilities and not for on-site cleanup costs. They believe the lack of insurance for on-site cleanup, however, will become a major problem most tank owners must address once the final regulations become effective.

EPA has received numerous comments from the Small Business Administration, The Planning Corporation, and industry representatives who have said that the aggregate dollar amounts as well as the multiple of 10

³The number of firms that would fail to meet their obligations is largely determined by the impact of a significant obligation on a firm that is already in poor condition.

are too high. The consensus of these parties seems to be that an aggregate of \$2 million would be sufficient to cover most losses. They also said that the financial test of self-insurance should be revised to allow tank owners or operators to have a net worth of \$1 million or \$2 million. Chapter 5 discusses the pros and cons of this option.

Risk-Retention Groups

Risk-retention groups or associations function in much the same way as insurance companies. These groups are formed and operated by entities facing risks of a similar nature. Individual risks of group members are transferred to a risk pool administered by the association. In return, members of the association pay a premium based on the expected value of their individual losses. The cost of losses is borne by the risk-retention group. The primary difference between an insurance company and a risk-retention group is that insurance companies sell their services to the public at large.

Until the passage of the Product Liability Risk Retention Act of 1981,⁴ which was subsequently amended by the Risk Retention Act of 1986, many state laws made formation of risk-retention groups very difficult. The current law permits certain types of risk-retention groups to provide their member-owners with liability insurance coverage on a nationwide basis. The 1986 law opened the pooling arrangements beyond product liability coverage to a broader array of entities that have experienced extreme difficulty in securing adequate, affordable, commercial liability coverage in a limited insurance market.

Although the 1986 act eliminated many of the barriers to the formation of such groups, some major obstacles still remain. For example, a risk-retention group still must be chartered and licensed under the laws of at least one state. This requires expenditures of as much as \$100,000 or higher for organizational costs, including lawyers, accountants, actuaries, and consultants with no assurance that the group will ever be approved for operation. Obtaining adequate member participation and capital to provide necessary limits of coverage could be a problem as well. The total amount of insurance and number of policies written in a risk-retention group could also be limited by capital reserves.

⁴Very few risk-retention groups were created to supply product liability insurance as a result of the passage of the Risk-Retention Act of 1981. In fact, in our July 1986 report, Insurance: Activity Under the Product Liability Risk-Retention Act of 1981, HRD-86-120BR, we uncovered a total of only seven risk-retention groups.

With regard to underground storage tanks, The Planning Corporation—which was a substantial provider of tank insurance until July 1987—is assisting tank owners and operators in forming a risk-retention group. This group, which will be licensed in Tennessee, will be known as the Petroleum Marketers Mutual Insurance Company—a Risk-Retention Group and is scheduled to begin offering insurance in January 1988. The group plans to offer claims-made, stand-alone, tank insurance policies with maximum limits below \$1 million. Initially, the program will be targeted at jobbers, who will pay a one-time minimum capital contribution of \$2,000 (this sum would increase depending on how many locations they own). In addition, they will be charged a minimum insurance premium of about \$2,000.

In summary, risk-retention groups are an emerging entity essentially still in the design and conceptual stages. While these groups could potentially offer some relief or hope to tank owners or operators in the future, no risk-retention groups are currently offering tank insurance. Before they become feasible options, a number of obstacles must be overcome such as startup and capitalization costs.

Use of State Cleanup Funds

Under the April 1987 proposed rule, EPA is allowing tank owners and operators to use state cleanup funds and other state assurance mechanisms approved by EPA on a case-by-case basis to demonstrate financial responsibility, regardless of whether the state has an approved UST program. The existence of a state fund that can be used to pay for cleanup of leaking USTs may be the only hope for many tank owners and operators—particularly the small ones who cannot obtain insurance or qualify for self-insurance. As of August 1987, however, only 12 states had specific or general funds which could be used to clean up leaks from petroleum USTs. Many of the other states are considering creating such funds; however, it is uncertain how many will have funds by the time EPA's proposed regulations become effective and whether EPA will ultimately approve them since a wide variety of funds already exists. A few states have no plans at the present time to establish a fund, or efforts to establish them have been defeated.

State trust funds can be very broad in scope, covering all corrective actions and third-party compensation costs for broad groups of tank owners and operators. They can also apply to a very narrow range of situations such as abandoned tanks or cleanup costs only. Connecticut, for example, has an Emergency Spill Response Fund that can be used to contain or remove discharges of oil/petroleum or hazardous wastes and

provide an alternate drinking water supply. This fund provides coverage for corrective action but not for third-party liabilities. The source of revenue for the Connecticut fund is recovery of the costs from the responsible party. In Florida, however, the Inland Protection Trust Fund is sustained by tank registration and renewal fees as well as a tax on petroleum products, penalties, recoveries, and a loan from another cleanup fund. The Florida fund may be used to respond to cleanup costs of inland contamination incidents resulting from the storage of petroleum products but does not cover any third-party liability claims.

A remaining unanswered question with newly created state funds is actually how these methods will work and how claims will be resolved, particularly those that cover third-party compensation. In addition, those that do not cover third-party compensation will offer only partial help in fulfilling financial responsibility requirements because tank owners or operators will still have to seek insurance—which is not generally available—or other financial assurance mechanisms to fully satisfy the UST regulations. Thus, state funds may be limited in applicability and scope.

Use of State-Required Mechanisms

Several states have adopted (and others may adopt) regulations that require UST owners or operators to use specific financial mechanisms, such as trust or escrow accounts, to demonstrate financial responsibility. These state-required mechanisms may be different from the federal one. To avoid unnecessary duplication and cost, EPA proposes to allow owners or operators to use state-required mechanisms to meet EPA's UST requirements once state plans are approved by EPA. Key factors EPA plans to consider in approving the use of state-required financial assurance mechanisms are (1) the certainty that the funds will be available and (2) the types of costs covered by the mechanism, and (3) the amount of funds that will be available. EPA is not certain about the desirability of this option and has requested public comments.

Letters of Credit

A letter of credit is a financial instrument through which a financial institution undertakes to meet a monetary obligation of its customer if the latter fails to do so. This instrument gives a third party—EPA, in this case—the right to draw funds from the institution that issued the letter, upon presentation of specific documents spelled out in the letter of credit. Compared to other forms of lending, banks consider letters of credit to be risky in general and prefer not to issue them, but will for their best commercial customers. According to several bank officials we

spoke with, a marginally profitable, small company such as a single-station owner or operator, would “probably never” be issued a letter of credit. None of them knew of any situation where letters of credit are being used to cover pollution risks associated with USTs.

The institution issuing a letter of credit charges an annual fee from 1 percent to 2-1/2 percent of the value of the letter of credit. Consequently, the cost of a \$1 million letter of credit could range from \$10,000 to \$25,000—more than 10 times the cost of insurance. To obtain a letter of credit, the prospective client must have a very strong customer relationship with the issuing institution and, in the case of small firms in particular, may be required to post collateral for the full amount of the credit. Pledging assets as collateral could, however, restrict financial resources available to operate the business. As a result, this mechanism will generally be available only to firms that banks believe can pay for corrective actions and that have adequate assets that could be seized if the firm’s performance is not satisfactory.

Another problem arises with claims for payment when a letter of credit is used because EPA as the beneficiary would be put in the position of collecting money from the issuing institution. As a result, EPA could become an insurance claims adjuster deciding the validity of claims and damages to be awarded. (A similar problem could also exist with regard to surety bonds, indemnity contracts, and guarantees.) Providers of letters of credit are not likely to have experience in handling complicated environmental damage claims and do not wish to participate in claims dispute resolution. Accordingly, letters of credit are not generally used to cover third-party liabilities. Letters of credit, however, do provide an economic incentive for the tank owner and operator to prevent, limit, or clean up releases because ultimately the firm will be using its own funds to reimburse the bank for the credit extended if a release actually occurs. The other side of this issue, however, is that the tank owner must have sufficient funds to repay the bank, should a leak occur.

Guarantee

A guarantee is usually based on the corporation’s financial strength as indicated by passing the financial test discussed earlier in this chapter. In this particular situation to qualify as a guarantor, the firm must, in simplified terms, have a controlling interest in or substantial business

relationship with the firm it is guaranteeing.⁵ EPA plans to allow certain firms such as petroleum wholesalers and suppliers that have an established business affiliation with tank owners and operators (such as gas station owners) to be potential guarantors. EPA hopes that this provision will increase the potential number of financial assurance providers. In the case of USTs, however, if the owner or operator fails to perform corrective action or satisfy a judgment, the guarantor must establish a trust fund from which EPA will direct the payment of corrective action costs or third-party claims. Problems with claims resolution are similar to those discussed for letters of credit.

In our discussions of guarantees with representatives of four major oil companies, they pointed out that although they have the financial ability to provide guarantees to some of their customers, they generally prefer not to because it would tie up substantial amounts of assets restricting their ability to operate. Some of them said that because of concerns about their corporate image as well as public health and the environment, they may become involved in cleaning up a customer's leak, but such action would be taken on a case-by-case basis. According to a petroleum marketing association, few jobbers have the financial resources to provide guarantees to their gas station owners or operators or others they supply. In summary, while it is difficult to project whether the guarantee mechanism will be generally available to UST owners and operators, it appears it will be used sparingly.

Indemnity Contracts

An indemnity contract is a two-party contractual mechanism under which one party can obtain protection from another party against future losses or harm. The proposed rules for an indemnity contract are similar to those for a guarantee. Under this option, a firm with a substantial business relationship with the tank owner or operator may act as an indemnitor—promising to indemnify the tank owner or operator for corrective actions and third-party claims by paying a specified sum directly into a fund. The firm providing the indemnification must show that it is qualified to provide financial assurance by annually passing the financial test described earlier. EPA believes that indemnity contracts are currently being used within the petroleum industry for this purpose; however, the agency has very little information to support this belief. In

⁵Controlling interest means direct ownership of at least 50 percent of the voting stock. EPA's proposed regulation states that a substantial business relationship exists if one firm depends on the existing economic transactions between the guarantor and the owner or operator.

fact, a petroleum marketing association maintains that in the limited situations where they exist, indemnity contracts are being used in the opposite fashion: the major oil companies want to be indemnified by their customers that is, jobbers and service station dealers.

Surety Bonds

Surety bonds have not generally been used for hazardous waste or pollution risks except by a few major corporations. The surety associations we interviewed indicated that the industry has very little, if any, interest in providing surety bonds for liabilities resulting from leaking underground storage tanks, because the exposures and potential losses are perceived to be great and they view these risks as a losing proposition. The availability of surety bonds may also be limited because EPA's proposed regulations effectively limit the speed with which the surety company may cancel a bond. The company must provide a 120 day notice of cancellation, and if the tank owner finds no other coverage within 60 days, it must notify EPA. EPA may then direct the surety company to pay the full amount for which the bond was issued if a leak is suspected.

The length of duration of coverage under a surety bond is an additional factor of major concern to providers of surety bonds. Surety experts have indicated that bonds are usually written for 1 or 2 years and that the risks cannot be adequately assessed for longer periods of time because there are too many uncertainties. In addition, surety companies have little or no experience with pollution risks and losses, making it difficult for them to price bonds accurately. Also, the exposure is not well defined and could be potentially large.

The surety bond company's main objective is to prequalify the client to prevent potential losses. A surety company will generally sign a bond based on the financial standing of the company, including its character, and must be convinced there is little risk in the long-term financial condition of the company. In some cases, collateral may be required as a guarantee against the risk, or the credit standing of a cosigner. Some insurers limit consideration of surety bonds to companies with net worth above \$100 million. The direct costs of the bonds could vary from \$3.75 to \$50 per \$1,000; the Surety Association of America's recommended rate of \$20 per \$1,000 (2 percent) is the most widely quoted rate. At this rate, the cost of a \$1 million bond would be \$20,000. Some companies offer discounts below the standard rate to financially strong customers. One surety official told us that he does not expect larger firms that could qualify for surety bonds to seek them because they can avail themselves of more affordable options.

Bonds are also not appealing to many UST owners because they do not transfer the risk. If the surety company pays, it has the right to recover the funds it expends from the tank owner. Further, surety bonds are not generally written to cover third-party liability for bodily injury and property damage, so insurance would still have to be purchased for that kind of coverage. Finally, none of the companies we spoke with had ever used surety bonds or letters of credit. These factors reduce the demand for surety bonds as a means of demonstrating financial responsibility. In addition, surety bonds are generally more expensive than insurance, further lessening their appeal to UST owners or operators.

Conclusions

Although an array of noninsurance mechanisms is potentially available to tanks owners and operators for demonstrating financial responsibility, to help to alleviate the current limited availability of tank insurance, these other methods are also limited or uncertain in availability or limited in terms of scope and application. In some instances, these other methods offer only partial assistance in satisfying EPA-proposed requirements. Some methods have never been used or have been used infrequently to demonstrate financial responsibility, particularly for third-party liability. Further, the issue of how claims would be resolved using these methods has not been addressed, causing financial institutions to be concerned about becoming involved with covering tanks. Other mechanisms, such as risk-retention groups, are still in the developmental stages and their ultimate outcome, applicability, and availability are uncertain. While self-insurance has been the most broadly used of the other methods available, it is generally applicable to only large corporations.

Because of the gaps in coverage and the currently limited availability, methods other than insurance may not provide tank owners and operators with adequate alternatives to insurance for complying with UST financial responsibility requirements at this time. As a result, the majority of tank owners may be faced with the dilemma of how to comply with the impending financial responsibility requirements. Chapter 5 discusses some options to address this problem.

The Availability of Pollution Insurance for Marine Vessels

As part of our study of the availability of insurance for petroleum underground storage tanks, SARA required GAO to consider the experiences of marine vessel owners and operators in obtaining insurance for liabilities arising from potential marine oil spills as required under the Federal Water Pollution Control Act (FWPCA), as amended. FWPCA was the most comprehensive federal statute dealing with compensation and liability for releases of hazardous substances prior to the enactment of Superfund legislation in 1980. SARA also required us to consider the operations of the Water Quality Insurance Syndicate (WQIS)—a pool of insurers formed in 1971 to respond to FWPCA's financial responsibility requirements.

As discussed in chapter 2, the insurance market for USTs is quite limited, while liability insurance for vessels is generally available from hundreds of domestic and foreign companies to owners and operators of the approximately 23,000 to 25,000 vessels that must comply with this requirement. Marine insurance is generally available because

- the vessel owner's liability to the federal government is limited by law, and a revolving trust fund is available to help pay for losses above the set limit;
- close regulation of the marine industry reduces the risks associated with this activity and in turn serves as an incentive for insurers to provide coverage;
- assurance of financial responsibility sufficient to compensate third parties for personal injury or damage to their property is not required—only assurance for cleanup costs and damage to natural resources is required;
- long, slow (gradual) leaks do not occur in the marine environment so that there is no time lapse associated with this risk; and
- average cleanup costs have been relatively low—about \$5,000.

Although about 90 percent of the regulated community of vessel owners and operators uses insurance to demonstrate financial responsibility, WQIS currently insures a relatively small share of the regulated community—about 10 percent. Numerous American and international insurance groups offer insurance; however, British companies provide most of the pollution insurance written for vessel owners largely because the ocean-going marine insurance market has been based in England for more than 200 years. In addition, the British groups—unlike WQIS—offer pollution coverage as part of a total insurance package, resulting in an overall lower insurance cost. The U.S. marine insurance industry is

made up principally of commercial insurers who also underwrite property and casualty risks, although they handle their marine insurance lines of business separately from the property/casualty insurance lines.

The Federal Water Pollution Control Act

FWPCA, as amended, is the principal statute establishing liability and financial responsibility requirements for the discharge of oil substances into navigable U.S. waters or along shorelines. The act requires owners and operators of vessels over 300 tons to demonstrate that they have the financial resources to cover cleanup costs and repair or replacement of natural resources. It is important to note, however, that unlike the UST financial responsibility requirements, FWPCA does not provide a liability provision or financial responsibility requirement for economic damages suffered by private parties, such as fishermen and beach owners, nor does it address bodily injury. Private parties damaged by marine oil spills must proceed against spillers under whatever state or other laws may be open to them.

FWPCA also established a \$35 million revolving fund to provide a ready source of cleanup money in cases where the responsible party (usually the spiller) does not pay initially or is not liable under the law. These funds are also available for catastrophic pollution incidents for which cleanup and damage costs exceed the spiller's liability. Originally, the fund was to be maintained through the collection of cost reimbursements, civil penalties, and fines imposed for the violation of certain provisions of the act. However, due to a shortfall of money caused primarily by spills from unknown sources, general fund appropriations have been necessary to maintain the revolving fund.

The U.S. Coast Guard, which is part of the Department of Transportation, is responsible for implementing section 311 of FWPCA. It has established two programs under its Office of Marine Safety, Security and Environmental Protection to administer these activities. The Vessel Certification Branch of the Financial Responsibility Division, with a staff of 11, certifies proof of financial responsibility and coordinates field enforcement. The Environmental Response Division, with a staff of approximately 27, coordinates cleanups and manages the revolving fund.

Standard of Liability for Cleanup Costs

FWPCA generally imposes liability for marine oil spills without regard to fault. In other words, the event of a discharge alone is sufficient to establish the owner's or operator's liability for costs, regardless of

whether negligence occurred, unless certain circumstances existed. The only exceptions to this standard of strict liability are when the discharge is solely caused by (1) an act of God, (2) an act of war, (3) negligence by the U.S. government, or (4) an act or omission of a third party. However, if the spill resulted from willful negligence or misconduct within the privity and knowledge of the spiller, liability may extend to the actual amount of the government's costs.

Subsequent amendments to the law set the liability limits at the greater of (1) \$125 per gross ton, or \$125,000, for inland oil barges; (2) \$150 per gross ton, or \$250,000, in the case of vessels carrying oil or hazardous substances; or (3) \$150 per gross ton of vessel for all other vessels. This effectively sets both a minimum and a maximum limit (based on tonnage). These limits have not been revised since FWPCA was amended, by the Clean Water Act of 1977; however, proposed legislation would raise them.

Cleanup may be performed by the responsible party when the government determines that it will be done properly. The Coast Guard encourages this in order to reduce costs incurred by the government. The Coast Guard's goal is to increase responsible party cleanups from an estimated current 80 percent level to 90 percent over the next 5 years.

Financial Responsibility

Because of vessels' mobility and the magnitude of potential spills, FWPCA, as amended, requires that any vessel over 300 gross tons which uses U.S. waters or ports establish and maintain evidence of financial responsibility for the maximum statutorily established liability that could be incurred in the event of a spill. Financial responsibility can be established by providing proof of insurance, surety bonds, self-insurance, guarantees, or other mechanisms acceptable to the Coast Guard. According to the Assistant Chief, Financial Responsibility Division, almost all owners and operators of the approximately 23,000 to 25,000 vessels who must comply with these requirements use insurance. FWPCA provides the government with the right to move directly against the insurance company or other parties providing evidence of financial responsibility. The Coast Guard believes that this right of direct action is the key to the success of its financial responsibility program.

Once financial responsibility is documented, the Coast Guard issues a Certificate of Financial Responsibility that must be carried aboard each vessel and produced upon demand. If a vessel does not have a valid certificate, the Coast Guard can deny the vessel entry to port or detain it in

port as well as impose a fine up to \$10,000. The Assistant Chief estimated that the Coast Guard detains about 15 vessels annually, from a few hours to a few days. He said that detention in port can cost the owner of a large tanker up to thousands of dollars each day.

Development of the Marine Insurance Industry

The era of requiring insurance protection against pollution incidents involving vessels is considered to have started with the Torrey Canyon accident of 1967, involving a 20- to 25-million gallon oil spill off the coast of England which resulted in more than \$16 million in cleanup expenses; estimated damage to private property, fishing, and marine life exceeded that figure many times over. In response to the enormous costs of pollution-related damages, FWPCA was amended in 1970 to ensure that future spillers would be financially able to clean up environmental damage arising from their marine oil spills.

Vessel Insurance Is Available

A large majority of vessel owners and operators have been able to obtain insurance to demonstrate financial responsibility for potential oil spills. Vessel owners and operators use insurance to demonstrate financial responsibility for nearly 90 percent of the vessels using U.S. waters. However, according to the Assistant Chief, Financial Responsibility Division, on occasion some larger corporations have self-insured or obtained surety bonds to comply with the financial responsibility requirements. (Use of mechanisms other than marine insurance is discussed later in this chapter.) The Coast Guard provided us with the following statistics on the use of various financial responsibility instruments from a 1977 analysis (see table 4.1). The Assistant Chief, Financial Responsibility Division, said that although this analysis has not been updated, based on his 10 years of experience with this program, the statistics remain virtually unchanged.

Table 4.1: Summary of Extent to Which Insurance and Other Financial Guarantee Mechanisms Are Used by Vessel Owners and Operators

	Percent
Insurance:	
London-based insurers	62
WQIS (United States)	16 ^a
Others	9
Total insurance	87
Other means:	
Self-insurance	11
Surety bonds	2
Total other means	13
Total all mechanisms	100

^aAccording to its President, WQIS now insures about 10 percent of the FWPCA-regulated community, having lost many customers to the London-based insurers.

The Coast Guard maintains a list of more than 100 American insurance companies and a large number of British and other foreign companies that offer acceptable marine pollution insurance. In addition to the number of companies offering liability insurance for vessels, another indicator of the general availability of vessel insurance is the extent to which vessel owners have complied with the financial responsibility requirement. Of the thousands of vessels using the U.S. waters, the Coast Guard has found it necessary to detain only about 15 vessels per year for noncompliance with this requirement. In addition, since 1973 there have been only two spills for which the vessel owners did not have required coverage. About 10,000 spills, generally small, occur each year.

Water Quality Insurance Syndicate

Although marine insurance is currently available on a worldwide basis, to address the problem in the United States, WQIS was formed in 1971 for the express purpose of insuring liability for the cost of removing oil spills as imposed by FWPCA. Membership in the syndicate has fluctuated from 28 companies in 1981 to a pool of 24 marine insurers in 1986. These insurers are engaged in underwriting pollution liabilities for vessels operating on U.S. rivers and coastal waters. WQIS operates with a president and a staff of 11 full-time persons who are responsible for issuing policies and processing claims. Various committees of the board of directors deal with policy-making issues for the syndicate. Although WQIS insures about 16,000 vessels, only about 2,000 to 2,500 of them (or 10 percent of the FWPCA-regulated community) were required to purchase insurance to comply with financial responsibility requirements under FWPCA. Since its inception, WQIS has expanded its insurance coverage to address additional liabilities contained in amendments to

FWPCA, as well as to reflect provisions contained in new pieces of legislation.

The Assistant Chief of the Coast Guard's Financial Responsibility Division believes that the WQIS insurance pool has contributed greatly to the success of its financial responsibility program. Because WQIS is considered one insurer, the government's processing procedures have been greatly simplified and, according to this official, operating costs are four or five times less than they would be otherwise. In addition, insurers can reduce premiums by spreading the risks among a number of companies. Further, vessel owners and operators can make their own insurance arrangements within the pool as long as they satisfy the Coast Guard's requirements. The pool provides the Coast Guard with a pre-arranged list of guarantors, which are solid businesses in their own right that have combined their strength to protect both the public and the insured.

Coverage Provided and Premiums

In addition to insuring 2,000 to 2,500 vessels for FWPCA liabilities involving oil spill cleanup and restoration of natural resources, WQIS also offers coverage for liabilities under two other laws and for liability to third parties for property damage. According to its President, during 1986 WQIS insured about 16,000 vessels in total—mostly barges that operate on rivers and coastal waterways. These policies generated approximately \$5.8 million in total premiums in 1986; about \$5 million in premiums is expected for 1987. WQIS does not offer liability coverage for bodily injury under the coverage offered for FWPCA liabilities; however, such coverage can be obtained separately. WQIS' President told us that its share of the market has shrunk somewhat due to competition from London-based insurers who offer pollution insurance as part of a total insurance package at a much lower premium than WQIS.

As noted earlier, FWPCA requires barge owners to obtain insurance for the greater of \$125 per ton, or \$125,000. Because the average barge is generally larger than 1,000 tons, most WQIS policies must be written based on tonnage rather than the minimum \$125,000 amount. We were told by the President, WQIS, that the premium for an 1,100-ton barge would be about 88 cents per ton, which amounts to about \$970 for each barge.

The Assistant Division Chief, Financial Responsibility Division, estimated that the insurance costs represent less than 1 percent of a vessel owner's or operator's operating costs. The WQIS President also told us that policies issued to comply with the FWPCA requirements do not

have deductibles. Deductibles do exist, however, as a general rule on third-party liability policies.

The President, WQIS, mentioned a number of factors that influence the premiums paid for WQIS coverage, such as size of the owner's fleet and the quantity of oil or hazardous substances the vessel is carrying. Unlike underground tanks, vessel age generally is not a factor in determining premiums.

Claims Experience

WQIS averages about 350-400 claims per year, although the number has decreased dramatically in recent years, according to the WQIS President. The total value of all claims varies greatly from year to year—depending on the nature of the actual incidents. Most spills are small, detected quickly, and cleaned up right away (because payment can be obtained directly from the insurer as the guarantor). Quick action minimizes property damage and possible claims. All these factors contribute to a fairly low average cleanup cost of about \$5,000.

Reasons Why Marine Insurance Is Generally Available

Based on a comparison of USTs and vessels, it is clear that they do not share the same type and degree of risks. The general availability of marine insurance can be attributed to the existence of statutory liability caps; close and strictly enforced regulation of the vessel industry; no requirement to obtain insurance for bodily injury or other related third-party liabilities; and other reasons.

Role of Liability Caps

Under FWPCA the vessel owner's liability is limited to a certain monetary level, primarily to preserve the viability of the shipping industry by making insurance coverage possible. According to the Coast Guard's Assistant Chief and WQIS' President, insurance companies generally will not insure shipowners with unlimited liability unless the law clearly limits the insurer's own liability to the policy amount. The shipowner's contribution to cleanup costs is supplemented by the FWPCA revolving fund, which is supported in part by appropriations, fines, and the collection of cost reimbursements. This fund is available for "catastrophic" or mystery spills.

The WQIS President and the Assistant Chief, Financial Responsibility Division, both said that any legislation requiring financial responsibility for environmental risks must provide specific limits on liability, stated in very clear language. The WQIS President said that this is the only

way insurance companies can cover liabilities and the government can certify that financial responsibility for potential cleanup and damages has been met. It is worth noting that, according to the legislative history of SARA, the Congress considered liability limits for underground storage tanks but did not adopt them.

Vessels More Closely Regulated

Although vessels have been subject to regulation for decades, federal regulation of USTs is relatively new. Final regulatory requirements are expected in mid-1988. WQIS' President believes that procedures similar to the Coast Guard's requirements for operator training, inspections, and enforcement should be part of EPA's UST program. He said that in the case of marine vessels, close regulation provides a built-in loss prevention feature. This loss prevention feature is very attractive to insurers, who are principally interested in assessing and minimizing risks and preventing losses. Under the Coast Guard's program, vessels must be inspected during construction, declared seaworthy before launch, and reinspected periodically (every 2 years) once in operation. Vessel operating personnel must be licensed and meet education and experience requirements. According to Coast Guard officials we spoke with, this high degree of monitoring vessel soundness and operator capability helps to prevent accidents and reduce potential insurance claims. According to WQIS and Coast Guard officials, given this regulatory environment, the risks associated with the transport of oil are reduced, making insurers more willing to insure these vessels.

Marine Spills Are Less Harmful to People

The potential for harming individuals (bodily injury) is less for waterborne handling of petroleum products than for land-based facilities such as USTs. In differentiating between pollution liability for marine vessels and liability for USTs, Coast Guard and WQIS officials pointed out that marine spills have very little potential for bodily injury. These spills far more often involve oil, rather than hazardous substances. In addition, the WQIS President said that he has never heard of any bodily injury claims resulting from an oil spill. (About 2 percent of petroleum UST insurance claims to date have involved bodily injury.) He also told us that very few marine spill incidents require evacuation. The WQIS President believed that the virtual absence of bodily injury risk makes vessel releases more insurable.

Marine Spills Cause Less Damage

Unlike underground storage tanks, vessels are not often subject to long, slow leaks because leaks generally occur as a result of a known event, such as a ramming or collision. Consequently, because vessel owners are aware almost immediately when a leak occurs, they can act more quickly to clean up the spill. This minimizes the overall environmental damage and costs associated with cleanup. Moreover, oil spills from marine vessels are not likely to contaminate drinking water supplies, which necessitates the costly processes of providing alternate drinking water supplies or relocating families, as can be the case with leaking USTs.

Average Cleanup Costs Are Lower

The President, WQIS, estimated that cleanup costs for vessel spills average \$5,000. Coast Guard officials, on the other hand, told us that the minimum spent on cleaning up a spill requiring federal attention is usually \$10,000 to \$20,000, and most cost under \$100,000. Severe situations can sometimes cost \$250,000 a day. The most expensive cleanup incident, which cost \$8 million, occurred in the St. Lawrence River, an environmentally sensitive area. The Chief, Environmental Response Division, cautioned that marine spills response costs vary widely because oil spreads on surface water. In comparison, average underground storage tank cleanup costs experienced by two principal sources of tank insurance are estimated to be about \$30,000 for one firm and between \$80,000 and \$100,000 for the other one. According to a study done by EPA, cleanup costs for USTs also have cost as much as \$8 million.

The Coast Guard and WQIS officials cautioned against trying to equate USTs too closely to vessels; however, they expressed the following suggestions, to be considered in establishing a UST financial responsibility program, based on their experience with vessels:

- Establish clear and appropriate liability limits.
- Implement regulation and monitoring of USTs.

Other Methods of Demonstrating Financial Responsibility

Coast Guard regulations allow vessel owners and operators to comply with financial responsibility requirements using any of the following methods other than insurance: self-insurance, surety bonds, corporate guarantees, and other acceptable methods. As mentioned earlier, about 11 percent of the vessels subject to financial responsibility requirements are covered by self-insurance and about 2 percent use surety bonds to demonstrate financial responsibility. The WQIS President said that current legislative provisions and good business practices do not leave any

viable options other than insurance in order to protect the government and third parties against the insolvency of a spiller.

Most self-insurers are large corporations, such as major oil companies that have substantial financial resources. To qualify, they must have working capital and net worth, each equal to their maximum potential liability under the act. Assets used to demonstrate qualification as a self-insurer must be maintained in the United States. Owners or operators who wish to qualify as self-insurers are required to file periodic, independently audited financial statements with the Coast Guard, among other documents.

As noted in chapter 3, unlike insurance companies, surety companies do not expect to pay a loss and, therefore, take every possible step to collateralize surety bonds with the owner's or operator's assets. As a result, it is only slightly easier to obtain a surety bond than to qualify as a self-insurer, and surety bonds add an additional constraint of tying up assets. Also, they are often more expensive than insurance and, as far as vessel operators are concerned, are not true risk-transfer instruments like insurance because of the collateralization factor. Thus, they have been used by relatively small numbers of vessel owners or operators to demonstrate financial responsibility. Other methods of demonstrating financial responsibility under FWPCA, such as letters of credit, have never been used in this area, according to the Assistant Chief of the Coast Guard's Financial Responsibility Division.

Conclusions

Pollution liability insurance for vessels is available and affordable. A variety of factors appear to have contributed to this successful picture, which differs from the UST environment. For example, in comparison to USTs the vessel industry has historically been regulated and closely monitored, reducing some of the risks to the insurer. Furthermore, marine oil spills do not involve as much of a threat to human health or the environment, eliminating a major concern about risks associated with land-based facilities. The risk to human health, particularly through contaminated drinking water, is a major risk and concern associated with a leaking UST. In addition, the scope and limits of statutory liability for spills from vessels are clear, so that insurers know exactly the potential costs they are assuming.

Insurers are willing to insure vessels, premiums can be set at an affordable level since liability is known, and there is ample competition among insurers. Given the health of this segment of the insurance industry,

Chapter 4
The Availability of Pollution Insurance for
Marine Vessels

there is every reason to believe that marine pollution liability insurance will continue to be available in the future. Such is not the case for USTs.

Analysis of Possible Options and Recommendations to EPA

Establishing financial responsibility under the congressionally set minimum and EPA-proposed maximum requirements is expected to cause difficulties for thousands of UST owners and operators. While other mechanisms are available to meet these requirements, insurance will likely be the most important. However, a significant number—perhaps as high as 65 percent of tank owners engaged in the retail sale of petroleum products—are unable to obtain insurance because it is not available.

There are no easy solutions to resolve this difficult issue affecting the owners and operators of about 1.4 million tanks—potentially EPA's largest regulated community. The issue of what to do about UST financial responsibility is exacerbated by several competing statutory concerns that EPA must address. As required by section 205 of SARA, we are offering recommendations to better enable owners and operators of underground storage tanks to maintain financial responsibility for cleanup costs and damages resulting from reasonably foreseeable petroleum releases and events.

Options for Better Ensuring Financial Responsibility of UST Owners and Operators

When the Congress deliberated over the UST provisions to be included in the 1986 Superfund amendments, the two principal providers of tank insurance offered policies with limits well above \$1 million. Accordingly, the Congress included a provision in SARA that would require tank owners to be financially responsible for their leaks at a minimum level of \$1 million per occurrence and gave EPA the authority to set appropriate aggregate limits after considering a number of factors. Using its discretionary authority, EPA has proposed that tank owners demonstrate that they have set aside, by one mechanism or another, up to \$6 million of aggregate coverage, depending on the number of tanks they own. Further, EPA proposed certain technical standards for tanks, scheduled to be implemented over time, that should make releases less likely and thereby reduce the potential liability. In preparing its regulations, EPA was guided by a SARA provision that it may consider the impact of the financial responsibility limits and requirements on small businesses.

The Congress also made provision in SARA for circumstances beyond the control of owners/operators. Recognizing that it may be difficult to determine who the responsible party is or impossible for it to pay, the Congress provided supplemental financial cleanup assistance in certain emergency or catastrophic situations by authorizing a \$500 million trust fund to be financed by taxes on petroleum products. In addition, the Congress also provided that if tank owners can demonstrate to EPA that

insurance and other forms of financial assurances are generally unavailable and other measures are being taken to provide coverage, such as forming a risk-retention group or establishment of a state cleanup fund, then a suspension of enforcement of the financial responsibility requirements is permitted.

In the past few years the availability of tank insurance has contracted significantly. Many tank owners and operators—especially small businesses—are unable to obtain insurance for tank releases, nor, they report, can they obtain alternatives to insurance, some of which required large, unpledged financial assets. Given this situation, it is likely that thousands of owners and operators in the retail motor fuel sector would have difficulty satisfying SARA's financial responsibility requirements for tank releases if these requirements took effect as proposed by EPA. If the regulations are enforced, the possibility exists that many firms without insurance or other protection could be forced out of business. As we talked to persons directly affected by the UST regulations and analyzed information during our review, the following options surfaced for addressing the UST financial responsibility problem.

**Option 1: Immediately
Require That UST Owners
and Operators
Demonstrate Financial
Responsibility**

The first option is a status quo option. Under it the Congress would make no changes to the law and EPA would finalize the regulations after considering the public comments. In theory, this option would safeguard the public against the risk of leaking tanks and ensure that funds are available to pay for leaks when needed. In reality, however, this option has serious disadvantages.

EPA will have no enforcement program in place for several years. No federal program has been planned because EPA expects to rely on states to enforce the federal requirements, and it will be several years before many states are ready to submit their UST programs to EPA for approval. EPA already believes that as many as 65 percent of tank owners and operators would not be able to comply with the proposed financial responsibility requirements if they become effective immediately. In the absence of enforcement, businesses that cannot meet the requirements, for whatever reasons, may also just wait and see what happens, especially in states that as yet have no UST program or legislation. In our opinion, there is little to be gained by imposing a requirement that few can meet, that neither EPA nor the states are prepared to enforce, and that businesses may simply choose to ignore.

Many businesses will certainly make efforts to comply with the requirements. Those that are marginally profitable could be forced out of business. Some may be forced to close their pumps. From an environmental and human health standpoint, the most appropriate outcome for some tank owners—those who are unwilling to replace older tanks with more protective tanks or install leak detection devices—may be for them to close their pumps or leave this type of business. Other tank owners will expend their limited resources on obtaining a suspension of enforcement from EPA. We believe that tank owners' time and money would be better spent upgrading tanks and planning for better leak protection and detection instead of pursuing unavailable financial assurance mechanisms.

**Option 2: Phase-In
Financial Responsibility
Regulations Over a
Realistic Timetable and
Modify the Timetable for
the Implementation of 10-
Year Tank Replacement**

This second option has two parts. The first part involves postponing the implementation of financial responsibility regulations and phasing them in over a more realistic timetable. This interim period would provide additional time for (1) EPA and states to develop enforcement programs and state regulatory programs, (2) insurers to reevaluate uncertainties that discourage them from offering tank insurance, and (3) tank owners to begin to implement technical improvements. The second part of this option entails modifying EPA's proposed 10-year strategy for tank replacement and upgrading by establishing staggered compliance dates, requiring tank owners to replace the oldest tanks first.

Postponing the implementation of the financial responsibility requirements has a great deal of support from the regulated community, various associations that represent them, and the Small Business Administration. For example, the Small Business Administration has recommended a 3-year delay of the proposed financial responsibility regulations for USTs to allow time for owners or operators to install leak detection devices for unprotected tanks. The belief is that a delay will make insurance mechanisms available as the regulated entities demonstrate to commercial insurers that they have minimized the risks by complying with UST technical standards. Also, this option would allow firms to spend time solving the UST problem instead of trying to justify why they need an extension to meet the requirements.

The best way to deal with the hazards of leaking tanks is to prevent them from leaking in the first place. Some commenters believe and we agree that greater protection of the public health and the environment will be achieved if regulated entities are able to spend their limited resources on tank upgrades and leak detection and not on the pursuit of

seemingly unavailable financial assurance mechanisms. EPA has proposed methods aimed at upgrading and replacing existing tanks over a span of 10 years; however, we believe this seems too long. Some commenters on the proposed regulations have also pointed out that this timetable should be shortened or staggered by replacing older tanks sooner as a means of more immediately protecting the environment and the public.

It is important to note that even with the first part of the option—postponing or phasing in the implementation of the financial responsibility requirements tank owners and operators still are legally responsible for damages that arise if their tanks leak. Tank owners have cleaned up leaks in the past and will be expected to continue to cleanup leaks with whatever resources they have. A financial responsibility requirement imposed by the federal government simply attempts to ensure that all tank owners in fact have sufficient resources available for this contingency.

Postponing the financial responsibility requirements for tank owners does, however, defer the statutory penalties of up to \$25,000 for non-compliance. Should a leak occur and the tank owner not have sufficient resources at the time to pay for the cleanup, the Trust Fund is a source that could be tapped and cost recovery could be sought from the tank owner. This could prove costly to the government if cost recoveries become difficult to obtain.

Postponing financial responsibility requirements and implementing proposed technical tank replacement requirements standards on a staggered basis, with older tanks being replaced more quickly, could also allow additional time for EPA and insurers to gain some first-hand experiences from which to develop a data base of information on the extent of tanks leaks. It would also allow time for EPA to develop information on actual cleanup costs, how effective leak detection methods are, and other information that EPA officials told us is not currently available to make sound and prudent regulatory decisions.

As part of delaying the effective date of the financial responsibility requirements, EPA could consider linking these dates with evidence of progress toward meeting other regulatory standards. For example, tank owners that commit to schedules for installing monitoring devices on tanks or replacing old tanks might be given a longer extension of time for meeting the financial responsibility requirements or be allowed to meet lower requirements. Similarly, states that implement regulatory

and enforcement programs might also be given special consideration or flexibility regarding when the financial responsibility requirements take effect.

The experience of the Coast Guard with marine oil spills provides some evidence that technical regulations are an extremely important part of a regulatory strategy. As noted in chapter 4, the Coast Guard has found that the technical requirements imposed on vessels and vessel operators, which serve as preventive measures to minimize the potential of an oil spill, are a principal reason why hundreds of insurers are willing to offer coverage for marine vessels that must comply with financial responsibility requirements. While it is unrealistic to expect all tank leaks to be eliminated, the technical standards should minimize the risks posed by USTs and encourage insurers to reenter this market.

Option 3: Modify the Minimum and Aggregate Financial Responsibility Requirement

Firms subject to the regulations have stated that the \$1 million minimum and \$6 million maximum are too high and should be reduced. A major petroleum marketing association has suggested a minimum of \$500,000 and aggregate levels up to \$2 million. Reducing the financial responsibility requirements could enable (1) more tank owners to use self-insurance as a means of demonstrating financial responsibility and (2) insurance companies to increase the number of policies they write. However, there are limited and often conflicting information and opinions on which to base a reasonable decision.

For example, the two major UST insurers told us that average cleanup costs are \$ 100,000 or less and that claims for bodily injury are rare. In addition, as we reported in October 1987, our analysis of about 200 environmental insurance claims closed during 1985 indicated that there were 56 claims for petroleum leaks averaging about \$24,000 each. However, it is not unusual for insurance requirements to exceed average claims, such as in the case of state-mandated auto insurance. Compounding the issue, an EPA official told us that the \$1 million minimum was based not on claims data but on the insurance levels that were available during early 1986.

According to representatives of service station dealers and bulk sellers of petroleum products, the aggregate levels as they now stand would seem to promote noncompliance with the proposed financial responsibility requirements since insurance levels are not generally available above \$1 million. They said that although future maximum levels of insurance coverage are subject to speculation, the historical trend has been a

decrease in insurance and policy limits rather than an increase. In light of these circumstances, the representatives believed that the aggregate levels are too high. However, according to an insurer, lowering the aggregate levels will probably not result in noticeably reducing insurance costs.

In addition, many tank owners have already begun to upgrade or replace their tanks and install leak detection devices to minimize the risk of leaks. EPA did not consider these improvements in establishing the aggregate levels. Because tank improvements lower risks, and therefore potential cleanup and other costs, perhaps making aggregate reductions contingent on tank improvements would be an incentive for tank owners and operators to be more safety conscious and promptly install more protective tanks.

Those that argue against lowering these requirements said that, in their opinion, past average claims are not a good indicator of what the future costs of cleanup will be under a regulatory program. In addition, representatives of two environmental groups told us that individuals who cannot meet the proposed financial responsibility requirements should not be in the business of selling or storing petroleum products. According to these representatives, tank owners should be responsible for the risks. They also questioned why the public should subsidize businesses that do not control the damage done by petroleum products leaking from their tanks. We were told by one representative that the claims of low cleanup costs are exaggerated by business people because no one has done a cleanup properly. One environmental group told us that cleanup costs range from \$50,000 to \$1 million and payments for third-party claims have ranged from \$0 to several million dollars. Payments have been for relocating families, new water sources, and legal fees.

Given the conflicting and limited data, we believe that EPA should continue to investigate the appropriate levels of liability for tank owners, particularly in cases where tank owners have taken measures to minimize the risk and protect the environment.

Option 4: Limit or Cap Liability

According to various people we contacted—including representatives of UST owners, insurers, other providers of financial assurance mechanisms, and Coast Guard officials—the establishment of caps may have some merit, particularly if based on the maximum expected exposure and potential for loss and if they provide for adequate compensation to injured parties. Many we talked to believe that a cap would encourage

insurers to enter the UST market by limiting the potential amount of losses and bringing more predictability to insurance awards and settlements. Caps, however, also have several major disadvantages that make them less attractive than other options discussed in this chapter.

While caps seem to be useful when applied to the marine oil spill insurance program, in other circumstances they appear to have significant drawbacks. While Coast Guard officials believe that having liability caps on cleanup costs is a principal reason for their program's success, it is important to note that the program requires no demonstration of financial responsibility for bodily injury and that the cap relates only to cleanup costs.

One large potential drawback of the cap option is that it could increase federal (and potentially state) spending in those cases where the cleanup costs exceed the liability limit. Further, caps have been viewed by some as a bailout for major oil companies--i.e., large companies that can afford to pay large cleanup costs would not be obligated to pay above the limit. Caps on UST owners' and operators' liability were considered during congressional deliberations on SARA; however, they were not included in the law.

In addition, it is not clear that liability caps are an incentive for insurers to cover pollution risks. Concerning limits placed on punitive and noneconomic damages to victims, in our October 1987 report,¹ we noted that the majority of changes affecting alleged hazardous waste victims were intended to limit liability. However, it is unclear how those changes have affected the availability of insurance. Furthermore, liability caps may not provide incentives for appropriate protection of the environment by tank owners, who may not consider the full potential costs of damages since their risk or potential loss is limited.

Option 5: Modify Requirements for Financial Test of Self-Insurance

The financial test of self-insurance is an alternative to commercial insurance for owners and operators of thousands of tanks. This test must also be met by providers of indemnity contracts and guarantees. However, the minimum \$1 million level which SARA set, coupled with EPA's requirement that a self-insurer must have at least 10 times that amount (and perhaps up to \$60 million) in net worth, is too high for most firms to qualify. As discussed in chapter 3, EPA believes that a multiple of 10

¹Hazardous Waste: Issues Surrounding Insurance Availability (GAO/RCED-88-2, Oct. 16, 1987).

times the net worth is required of firms desiring to demonstrate financial responsibility by self-insuring to ensure that adequate funds are available for 99 percent of leaks. Questions have been raised concerning the rationale for the 99 percent margin of safety and whether it is too stringent. Reducing the self-insurance multiple could increase the number of tank owners or operators that can comply through self-insurance or other means. We believe EPA should continue to consider whether the proposed requirements for the financial test are appropriate.

Option 6: Expand the Uses of the Storage Trust Fund

The Leaking Underground Storage Tank Trust Fund is a statutory mechanism for providing up to \$500 million over a 5-year period to provide financial assistance for tank leaks in emergency or catastrophic situations, or if the tank owner or operator cannot be found, is insolvent, or is uncooperative. The fund contained about \$46 million as of September 1987. Expanding the uses of this fund could provide short-term assistance to tank owners and operators who cannot obtain insurance or other financial mechanisms for liabilities associated with USTs, allowing them to remain in business. The major disadvantages of this option are that it could be very costly to the government and may provide insufficient incentives for improvements by tank owners. The following are some suggested uses of the fund:

- Create a federal reinsurance program for petroleum tank owners who cannot get private tank insurance. This idea has sizable support from associations representing tank owners and operators, as well as from EPA. To its detriment, however, federal insurance programs, such as the flood insurance program, may cost the government considerable money, are generally complex to administer, and are often considered government bailouts. An advantage of this option is that insurers would be encouraged to provide this type of insurance because the federal government—as the reinsurer—would share in paying for losses that occur. At the same time, under this option, the public is more certain that financial resources will be available to pay for the damages caused by leaking tanks.
- Create an amnesty program to allow for the cleanup of past and current problems without any cost to the tank owner or operator. The costs would be borne by the federal government. The purposes of an amnesty program are to clean up known or suspected tank releases, to allow time to determine the extent of the UST problem, and to encourage insurers to reenter the market after the program is over with the view that they will be starting with a clean slate. Similarly, some of the funds obtained

under the trust fund could be used to pay for cleanups. Experience with cleanups would help to determine both the costs and the magnitude of the problem in various areas of the country and to evaluate cleanup methods and leak detection methods. The drawbacks are that the government would pay for the cleanup and administrative costs and the perception that tank owners would be relieved of financial responsibility.

The state of Florida has instituted an amnesty program due to the limited availability of insurance there to ensure that tank leaks are cleaned up quickly to minimize the potential contamination to groundwater—a resource that virtually the entire state depends on for drinking water. Several other states are considering this program.

- Create a loan program to provide low-interest money to tank owners and operators for upgrading or replacing older tanks to minimize potential leaks. Many tank owners cannot obtain insurance because they do not meet insurers' underwriting criteria concerning tank age. Insurers generally believe the older the tank, the more susceptible it is to leaks; most will not insure tanks more than 15 or 20 years old. To help tank owners in this category to obtain insurance for their tanks, low interest loans for tank replacement could benefit owners, as well as provide for additional environmental protection. Again, however, such a program could be costly for the government to operate.

Conclusions

In view of the poor outlook for commercial insurance to cover USTs, most firms must seek other financial alternatives to meet the financial responsibility requirements or be faced with noncompliance. To address this problem, we have examined and analyzed the advantages and disadvantages of a number of options. While all of the options have some merit, we believe our second option stands out as more effectively balancing congressional interests of protecting the public health and environment and ensuring that responsible parties pay for the cleanups, while at the same time considering the economic interests of small businesses.

This option consist of two elements. The first element involves implementing the proposed financial responsibility regulations over a realistic timetable. This could involve incentives for making technical improvements, such as lowering financial responsibility requirements for owners and operators who quickly install leak detection devices or replace older tanks with safer, more protective tanks. The second would require EPA

to phase-in tank renovation and replacement over a staggered, 10-year schedule requiring older tanks to be replaced or upgraded first to minimize environmental and health risks. The maximum 10-year time span which EPA has proposed seems too long because the technology already exists to reduce risks associated with leaking tanks. In addition to providing more public protection, this option also allows insurers additional time to reevaluate uncertainties that discouraged them from offering tank insurance.

Our work also suggests that, concurrent with the two-pronged approach, EPA may want to reevaluate the proposed \$1 million minimum to \$6 million aggregate level and the self-insurance requirements. In this regard, many tank owners have already begun to upgrade or replace their tanks and install leak detection devices to minimize the risk of leaks. EPA did not consider these improvements in establishing the aggregate levels. Because tank improvements lower risks, and therefore potential cleanup and other costs, perhaps making aggregate reductions contingent on tank improvements would be an incentive for tank owners and operators to be more safety conscious and promptly install more protective tanks.

Recommendations to the Administrator, EPA

We recommend that the Administrator, EPA, implement financial responsibility requirements over a timetable that (1) is realistic in terms of availability of insurance and other financial assurance methods, (2) provides incentives for prompt and appropriate technical improvements by tank owners and operators, and (3) allows for the development of appropriate state regulatory and enforcement programs. We further recommend that the Administrator modify the timetable for tank upgrading or replacement by establishing a staggered schedule under which older tanks will be upgraded or replaced first.

We also recommend that the Administrator continue to investigate the appropriate levels of liability for tank owners and proper requirements for self-insurance.

Agency Comments

In a December 11, 1987 letter commenting on our draft report, EPA's Acting Assistant Administrator, Office of Policy, Planning and Evaluation, stated that the report does an admirable job of addressing the very complex technical and policy issues related to the availability of pollution liability insurance for underground storage tanks. EPA's comments did not address our recommendations. (see app. I.)

Comments From the Environmental Protection Agency

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 11 1981

OFFICE OF
POLICY, PLANNING AND EVALUATION

Mr. Hugh J. Wessinger
Senior Associate Director
Resources, Community, and
Economic Development Division
United States General Accounting Office
Washington, D.C. 20548

Dear Mr. Wessinger:

I am responding to your October 23 letter addressed to the Administrator of the Environmental Protection Agency (EPA) concerning a General Accounting Office (GAO) draft report, "Superfund: Insuring Underground Petroleum Tanks" (GAO/RCED-88-39). In accordance with Public Law 96-226, the Agency reviewed the report and provides the enclosed comments.

The subject of this report is complex, involving not only technical issues related to the availability of pollution liability insurance for underground storage tanks, but several policy issues the Agency faces as well. The draft report does an admirable job in addressing these issues. I have enclosed some comments which I believe will contribute to a fuller understanding of the insurance availability problem.

Thank you for the opportunity to comment on the report. I appreciate the extended time that your office provided the Agency so that we could fully respond to the report. I hope that these comments are useful during the preparation of the final report.

Sincerely yours,

A handwritten signature in black ink, appearing to read "John M. Campbell".

John M. Campbell
Acting Assistant Administrator

Enclosure

SUPERFUND: INSURING UNDERGROUND PETROLEUM TANKS
a draft GAO Report

Comments are divided into two general sections:

1. Availability of pollution liability insurance
2. Premium costs

See comment 1.

See comment 2.

1. Availability of pollution liability insurance of underground storage tanks

While the draft report presented a good description of the problem of insurance availability, it could be strengthened by clarifying the roles of the Planning Corporation and the Pollution Liability Insurance Association (PLIA).

The Planning Corporation (TPC) is not an insurance company; as such, it does not issue insurance policies. It develops insurance programs (i.e., insurance for petroleum marketers) that it then "sells" to an insurance company. The insurance company (the "front" company) issues the actual policies. TPC has done this for the past five years. For the past two years, its insurance program for petroleum marketers has been handled by the International Surplus Lines Insurance Co. (ISLIC).

In addition, the report should include a description of the role of PLIA in this program. PLIA is an association of around 20 insurance companies (mostly medium-sized mutual companies) which reinsure each others' pollution liability policies. ISLIC is a member of PLIA, and it was this reinsurance mechanism that allowed the TPC insurance programs to be successful. ISLIC has stopped writing new or renewal policies as of July 1, 1987, but current policies are being honored for their entire policy periods. PLIA is still in existence and has enlisted other insurance brokers to develop insurance programs similar to the TPC program. Therefore, it is not entirely correct to say that, with the withdrawal of the TPC insurance program, that the number of insurance providers has been reduced to one.

A subject that the draft report did not address in terms of insurance availability is consumer acceptance of normal and standard underwriting conditions for getting insurance. Underground Storage Tanks (USTs) have, to a large degree, been unregulated in the past. There were no national or even state standards for tank material and construction, installation, leak detection, and clean up of releases. Most of this was done at the local level, mostly in response to local fire codes. Most tank owners, therefore, did not even have a rudimentary tank management program (some type of tank monitoring, etc.) which is almost routinely required as a condition for obtaining insurance. Therefore, when people say that they have been unable to get insurance, their negative response may be determined by their rejection of the insurers' conditions for obtaining coverage. That is, many underground storage tank owner/operators will not be able to get insurance even if insurance were available because of 1) the age and condition of their tanks; 2) their tank management practices; and 3) the high cost of insurance.

-2-

Another problem about insurance availability is that, in the recent past, there has not been a large demand for pollution liability insurance. The report stated that people have been getting insurance in response to federal and state requirements for financial responsibility. Because there have not been any federal requirements, and to the best of our knowledge, state requirements, this has not been a stimulating factor in the past. One of the main reasons why petroleum marketers have gotten insurance in the past has been that their suppliers (large oil companies or oil jobbers) have required them to obtain insurance to protect the suppliers from any damage. Most of the other groups of underground storage tank owners and operators do not have such requirements. Accordingly, they have not been aggressive about obtaining pollution liability insurance. It is interesting to note that the Planning Corporation contacted over a hundred trade associations of UST owners and operators to market their services and to develop insurance programs (much like what they did for the oil jobbers). This effort produced no new customers for TPC.

While demand for insurance alone does not create a supply of insurance, it does have some effect.

2. Premium costs

It is not clear what purpose was served by including a discussion of premium costs. The report did not state whether the policy coverage limits and premiums described were for single facilities or for an entire company, or whether these limits and premiums were for coverage of the underground storage tanks or for a comprehensive insurance policy. Insurance premiums increase for a lot of different reasons (e.g., claims experience, increase in the number of tanks covered, increase in the age of tanks covered).

**Appendix I
Comments From the Environmental
Protection Agency**

The following are GAO's comments on the Acting Assistant Administrator's letter dated December 11, 1987.

1. This information has been incorporated into chapters 1 and 2.
2. This information has been incorporated into chapter 2.

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Report to the Clerk of the House of
Representatives

January 1988

FINANCIAL AUDIT

House Stationery
Revolving Fund
Statements—June 30,
1987 and 1986



041067

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Comptroller General
of the United States

B-114862

January 21, 1988

The Honorable Donald K. Anderson
Clerk of the House of Representatives


Dear Mr. Anderson:

As requested in your letter of May 4, 1987, we have examined the balance sheets of the House of Representatives Stationery Revolving Fund as of June 30, 1987 and 1986, and the related statements of operations and changes in financial position for the years then ended. Our examinations were made in accordance with generally accepted government auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. We completed our audit work on September 4, 1987.

In our opinion, the financial statements referred to above present fairly the financial position of the House of Representatives Stationery Revolving Fund as of June 30, 1987 and 1986, and the results of its operations and changes in its financial position for the years then ended in conformity with generally accepted accounting principles and the financial accounting policies described in note 1 to the financial statements applied on a consistent basis.

This report contains our report on internal accounting controls and compliance with laws and regulations. It also includes the Fund's financial statements and accompanying notes for the fiscal years ended June 30, 1987 and 1986. We are sending a copy of this report to the Chairman of the Committee on House Administration.

Sincerely yours,

for 

Charles A. Bowsher
Comptroller General
of the United States

Contents

Opinion Letter	1
Report on Internal Accounting Controls and Compliance With Laws and Regulations	4
Balance Sheet	6
Statement of Operations	7
Statement of Changes in Financial Position	8
Notes to Financial Statements	9
Table	10

Table 1: Identifiable Operating Costs

Report on Internal Accounting Controls and Compliance With Laws and Regulations

We have examined the financial statements of the House of Representatives Stationery Revolving Fund for the fiscal years ended June 30, 1987 and 1986. Our examinations were made in accordance with generally accepted government auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures, including tests of compliance with laws and regulations, as we considered necessary in the circumstances. This report pertains only to our study and evaluation of the system of internal accounting controls and our review of compliance with laws and regulations for the fiscal year ended June 30, 1987. Our report on internal accounting controls and compliance with laws and regulations for the fiscal year ended June 30, 1986, is presented in GAO/AFMD-87-13, dated December 22, 1986.

As part of our examination, we made a study and evaluation of the Fund's system of internal accounting controls to the extent we considered necessary to evaluate the system as required by generally accepted government auditing standards. The purpose of our study and evaluation was to determine the nature, timing, and extent of the auditing procedures necessary for expressing an opinion on the Fund's financial statements.

For the purpose of this report, we have classified the significant internal accounting controls in the categories of receipts, disbursements, equipment, inventory, and receivables.

The management of the Fund is responsible for establishing and maintaining a system of internal accounting controls. In fulfilling this responsibility, estimates and judgments by management are required to assess the expected benefits and related costs of control procedures. The objectives of a system are to provide management with reasonable, but not absolute, assurance that assets are safeguarded against loss from unauthorized use or disposition, and that transactions are executed in accordance with management's authorization and recorded properly to permit the preparation of financial statements in accordance with generally accepted accounting principles and the financial accounting policies described in note 1 to the financial statements.

Because of inherent limitations in any system of internal accounting controls, errors or irregularities may nevertheless occur and not be detected. Also, projection of any evaluation of the system to future periods is subject to the risk that procedures may become inadequate because of changes in conditions or that the degree of compliance with the procedures may deteriorate.

Our study and evaluation of internal accounting controls was made for the purpose described in the second paragraph. It was more limited than would be necessary to express an opinion on the system of internal accounting controls taken as a whole or on any categories of controls specifically identified, and it would not necessarily disclose all material weaknesses in the system. Accordingly, we do not express an opinion on the Fund's system of internal accounting controls taken as a whole or on any of the categories of controls identified. However, our study and evaluation disclosed no condition that we believed to be a material weakness that would affect our expressing an opinion on the Fund's financial statements.

As part of our examination, we also tested the Fund's compliance with applicable laws and regulations. In our opinion, the House of Representatives Stationery Revolving Fund complied with the terms and provisions of laws and regulations for the transactions tested that could have materially affected its financial statements. Nothing came to our attention, in connection with our examination, that caused us to believe that the Fund was not in compliance with the terms and provisions of laws and regulations for those transactions not tested.

Balance Sheet

	June 30,	
	1987	1986
Assets		
Current Assets		
Cash in U.S. Treasury	\$2,379,292	\$1,920,704
Petty cash	1,500	1,500
Accounts receivable	51,303	41,208
Merchandise inventory	1,208,582	1,226,226
Total current assets	3,640,677	3,189,638
Fixed Assets		
Equipment	246,759	246,759
Less accumulated depreciation	201,069	174,207
Total fixed assets	45,690	72,552
Total Assets	\$3,686,367	\$3,262,190
Liabilities and Government Equity		
Liabilities		
Accounts payable	\$412,131	\$209,730
Deferred income	87,551	55,648
Total liabilities	499,682	265,378
Government Equity		
Contributed capital	1,600,000	1,600,000
Fund balance		
Balance at beginning of year	1,396,812	1,208,823
Net income	189,873	187,989
Balance at end of year	1,586,685	1,396,812
Total government equity	3,186,685	2,996,812
Total Liabilities and Government Equity	\$3,686,367	\$3,262,190

The accompanying notes are an integral part of this statement.

Statement of Operations

	Fiscal years ended June 30,	
	1987	1986
Revenue		
Net sales	\$7,062,236	\$6,781,891
Service charges	141,851	131,759
Miscellaneous income (note 4)	2,807	0
Total revenue	7,206,894	6,913,650
Operating Expenses		
Cost of sales	6,980,744	6,684,416
Depreciation expense	26,862	41,005
Loss on accounts receivable	64	240
Miscellaneous expense (note 5)	9,351	0
Total operating expenses	7,017,021	6,725,661
Net Income	\$189,873	\$187,989

The accompanying notes are an integral part of this statement.

Statement of Changes in Financial Position

	Fiscal years ended June 30,	
	1987	1986
Funds Provided		
Net income from operations	\$189,873	\$187,989
Provision for depreciation	26,862	41,005
Cash from operations	216,735	228,994
Decrease in accounts receivable	0	8,886
Decrease in merchandise inventory	17,644	0
Increase in deferred income	31,903	0
Increase in accounts payable	202,401	0
Total funds provided	468,683	237,880
Funds Applied		
Increase in accounts receivable	10,095	0
Increase in merchandise inventory	0	180,451
Decrease in accounts payable	0	104,928
Decrease in deferred income	0	26,676
Purchase of equipment	0	29,570
Total funds applied	10,095	341,625
Increase (Decrease) in Cash	\$458,588	\$(103,745)

The accompanying notes are an integral part of this statement.

Notes to Financial Statements

Note 1. Significant Accounting Policies

The House of Representatives Stationery Revolving Fund, established July 17, 1947 (2 U.S.C. 46b-1), is administered by the Office Supply Service under the jurisdiction of the Clerk of the House of Representatives and is subject to the rules and regulations of the Committee on House Administration. The Office Supply Service furnishes House Members, committees, departments, and officers with stationery and supplies.

Office Supply Service operations are financed from the House of Representatives Stationery Revolving Fund and appropriations to the Clerk of the House and the Architect of the Capitol. All receipts from operations are deposited into the revolving fund and are available for operations. Employees' salaries and benefits and certain other benefits and services such as space, building repairs, maintenance, and utilities are paid from appropriated funds and are not charged to the revolving fund. (See note 3.)

Inventories are stated at cost using the weighted-average method of valuation.

Equipment purchased prior to fiscal year 1982 is depreciated over a 10-year life using the straight-line method with no salvage value. Equipment purchased in fiscal year 1982 and later years is depreciated over a 5-year life using the straight-line method with no salvage value.

A 10-percent service charge is added to all nonofficial sales, which consist primarily of sales to congressional staff.

Accounts receivable include amounts owed to the Office Supply Service at year-end by committees and officers of the House, and the value of merchandise returned to vendors for credit, replacement, or repairs.

Deferred income represents amounts to be recognized as revenue in subsequent periods when prepaid special order merchandise is delivered.

Cost of sales includes obsolete and damaged merchandise written off and merchandise marked down and sold below cost.

Note 2. Purchase Order Commitments

Obligations for undelivered orders amounted to \$708,668 as of June 30, 1987, and \$587,500 as of June 30, 1986.

Note 3. Other Operating Costs

Certain costs of operating the Office Supply Service are not paid from the revolving fund. The costs related to space occupancy, building maintenance, lighting, and temperature control cannot be readily determined. Identifiable costs paid from appropriated funds for the fiscal years ended June 30, 1987 and 1986, follow.

Table 1: Identifiable Operating Costs

Costs paid	Amount	
	1987	1986
Gross salaries	\$733,416	\$795,690
Government contributions	115,355	98,874
Equipment maintenance	46,745	48,243
Office supplies	18,148	15,774
Telephone service	6,190	6,242
Total	\$919,854	\$964,823

Note 4. Miscellaneous Income

An adjustment of \$2,807, was made to write off an unidentifiable credit balance in accounts receivable. This amount has been carried on the books since July 1983.

Note 5. Miscellaneous Expense

Various expenses formerly paid from appropriated funds are now being paid from the revolving fund. For fiscal year 1987, supplies in the amount of \$9,351 were purchased and recorded in this account.

