# Petrofund Reimbursement For Leaking Storage Tanks



January 1993

Program Evaluation Division
Office of the Legislative Auditor
State of Minnesota

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January 27, 1993

Members
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In April 1992, the Legislative Audit Commission directed us to evaluate Minnesota's Petrofund, the program which partially reimburses petroleum tank owners for cleaning up leaks and spills. There were numerous questions about reimbursement policies and practices and the growing overall cost of the program.

We found that the revenues flowing to the Petrofund (from a penny-per-gallon fee on wholesale petroleum) are insufficient to pay current and future reimbursement claims. The Legislature recently allowed higher reimbursements, but did not increase revenues. Also, the number of claims has gone up. As a result, the fund is in deficit and claimants wait months for their reimbursements. The Legislature should consider increasing Petrofund revenues, cutting back the level of reimbursement, or both. Our report outlines options for the Legislature and contains several recommendations for streamlining claims processing.

We received the full cooperation of the Pollution Control Agency, which oversees the cleanup program, and the Commerce Department, which administers the reimbursement program.

Our report was written by Marilyn Jackson-Beeck (project manager) and David Chein, with assistance from intern Jeff Bostic.

Sincerely yours,

James Nobles
Legislative Auditor

Roger Brooks
Deputy Legislative Auditor

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# Petrofund Reimbursement for Leaking Storage Tanks

**EXECUTIVE SUMMARY**

**The Petrofund has been beneficial but unexpectedly expensive.**

Recent financial problems have caused policy makers to reexamine many state programs and ask whether they can be managed more efficiently and effectively. One such program is the Petroleum Tank Compensation Fund ("Petrofund"), which the Legislature enacted in 1987 to offset most of the cost to clean up soil and water contamination that usually results from leaking petroleum storage tanks.

By encouraging tank owners to clean up contaminated soil and ground water, the Petrofund has helped to improve the environment for all citizens while reducing health risks and physical dangers caused by petroleum leaks and spills. However, the reimbursement program has cost more than legislators expected, and it has operated with insufficient funds since October 1991.

In light of the Petrofund deficit and the amount of money which has already been paid to tank owners (more than $72 million through June 1992), the Legislative Audit Commission directed our office to study the reimbursement program and review current cost control mechanisms.

We addressed the following questions:

- **Are Minnesota's cleanup standards and reimbursement levels appropriate? What does the federal government require, and how do other states manage their programs?**
- **What technical services are needed to clean up a contaminated petroleum storage tank site, and what is the cost? What accounts for cost variations?**
- **How well does the Department of Commerce run the reimbursement program? How does the Petroleum Tank Release Compensation Board make specific reimbursement decisions? Would procedural and organizational changes promote efficiency?**
- **Why is the Petrofund in deficit and what should be done about it?**
- **Are additional measures needed to reduce expenses and protect the Petrofund from possible fraud and abuse?**

To answer these questions, we analyzed data from the Department of Commerce and Pollution Control Agency and reviewed applicable laws and policies. We attended board meetings, spoke with industry representatives, and interviewed program administrators in Minnesota, the U.S. Environmental Protection Agency, and neighboring states. Also, we visited a tank excavation, testing lab, and several cleanup sites.

In general, we concluded that the Petrofund reimbursement program should not continue in its current form. Over the past five years, the Legislature increased the program's scope and level of reimbursement but did not authorize an increase in revenues. As a result, the program has a significant debt that needs immediate legislative attention. For the longer term, we think that the Legislature should consider refocusing the reimbursement program and changing the way in which the fund is administered.

**The Petrofund's debt needs immediate legislative attention.**

# OVERVIEW

The federal government requires most owners to upgrade or replace their old, corroding underground storage tanks with new, leak-resistant models by 1998. Federal regulations also require owners of underground storage tanks to obtain insurance, or its equivalent, to pay up to $1 million for cleanups and third party damages. Although it is not required that states relieve tank owners of their financial obligations, Minnesota and 42 other states have chosen to do so by establishing state-financed reimbursement programs such as the Petrofund. The fund provides the necessary financial assurance mainly because private insurance for old tanks became scarce and expensive.

The petroleum tank cleanup program is administered by the Pollution Control Agency (PCA), and the Petrofund reimbursement program is administered by the Department of Commerce. In accordance with state and federal regulations, underground tanks have been registered with PCA since 1987, and aboveground tanks since 1990. As of September 1992, 44,043 underground tanks at 15,388 locations were registered with the agency.

Service stations and bulk petroleum dealers owned 42 percent of the tanks, non-profit organizations such as governments, schools, and churches, owned 20 percent, and the rest were owned by other manufacturing and service industries. In addition, 15,094 aboveground tanks at 3,391 locations were registered, but PCA estimates that another 3,000 to 5,000 remain to be included.

Many of the tanks are made of bare steel, which almost inevitably corrodes, causing leaks. Other leaks result from overfilling or bad pipe fittings. As of September 1992, PCA had identified 5,374 petroleum leak sites. Most (4,904) have been reported only in the past five years since the Petrofund reimbursement program began. However, the agency estimates that the total number of leak sites, including those already identified, will grow to 11,500 by 1998.

The Petrofund has paid an average of $39,044 per leak site, but this figure will most likely increase because about half the cleanup projects are incomplete. Cleanups involving ground water contamination take much longer and cost more than those involving only contaminated soil.

Minnesota's Petrofund gets its revenues from a penny-per-gallon fee on petroleum distributors, which is not imposed if the Petrofund balance is above $2 million. The fund is administered by a five-member Petroboard, which reviews tank owners' requests for reimbursement of cleanup expenses, determines eligibility, and authorizes payments. By law, two board members represent the petroleum industry, one the insurance industry, and two the state agencies whose staff participate in payment decisions. The Department of Commerce provides support staff for the Petroboard.

# PETROFUND DEFICIT

Partly because the Petrofund is comparatively generous, Minnesota has begun and completed more underground tank cleanups than many other states. The cleanup program has made major administrative improvements recently and earned high praise from federal officials. But in consequence:

- **The demand for reimbursement has outstripped the revenues that are available to the Petrofund, and now it lacks the money to pay tank owners promptly.**

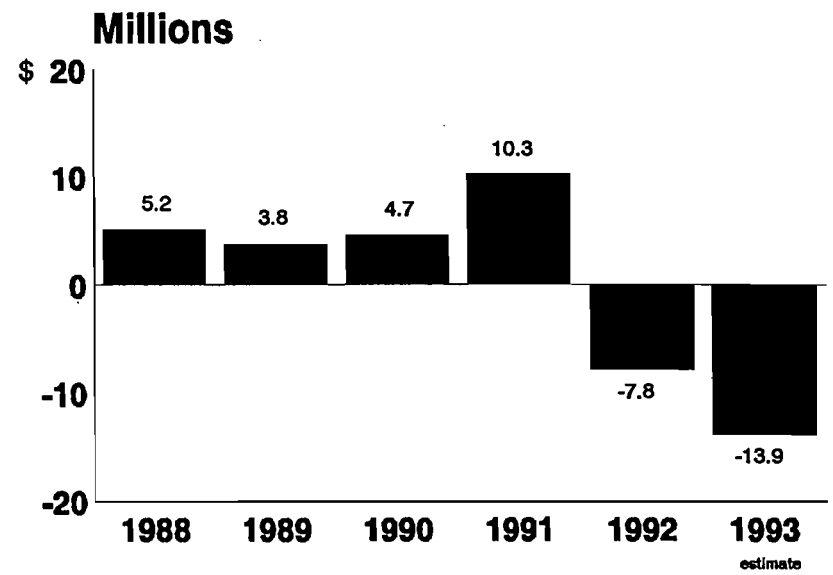
Through June 1992, the Petrofund had made or approved payment on nearly 2,000 claims at a cost of $72 million. However, most of these claims were made only in the past two years. In fiscal year 1992 alone, the Petroboard agreed to pay $44 million to tank owners. However, the maximum Petrofund revenues are only about $30 million annually since yearly petroleum consumption has been constant at about three billion gallons for the past decade.

We found that the Petrofund had a $7.8 million deficit in June 1992, so tank owners had to wait several months for revenues to accumulate after the Petroboard approved payment of their claims. By October, minutes show that the Petroboard had approved additional payments and faced a shortfall of about $11 million.

**A growing deficit means delayed payments.**

The Pollution Control Agency and Department of Commerce have estimated that the Petrofund will approve payments of $300 to $360 million more to tank owners by 1998, when most of the tanks must be upgraded or replaced. Considering the current deficit and backlog of unprocessed claims (together, about $30 million), this suggests that the Petrofund may be short $150 to $210 million in six years. However, the Petrofund's actual future deficit could be much larger than the agency and department have estimated because unregistered leaking tanks are regularly discovered, and 52 percent of the cleanup projects are incomplete.

Petrofund Revenues Minus Expenses,
Fiscal Years 1988-93




Source: Department of Commerce.

When complete, we estimate that the projected 11,500 cleanup projects could ultimately cost an average of $70,000 each and a total of more than $800 million. If so, at the current maximum rate of $30 million in annual revenues, it would be necessary to collect the one-cent-per-gallon fee continuously for another 24 years.

# REASONS FOR THE DEFICIT

Six main factors help to explain the Petrofund's financial problems. First:

**Other states are not so generous as Minnesota.**

- **Minnesota's Petrofund reimbursement program covers more tank owners, more generously, than most other states.**

The Minnesota program covers 90 percent of cleanup costs up to $1 million, charges no deductible, and almost always pays whatever prices are submitted, without auditing claims for reimbursement. Most other states have funds similar to the Petrofund but exclude aboveground tanks and require owners to pay at least the first $10,000 of cleanup costs. Further, some states limit the rates they will pay for specific services, and they regularly send inspectors to see that work was actually completed.

Second:

- **The Legislature has significantly expanded the Petrofund reimbursement program without increasing revenues.**

**The Legislature agreed to pay out more for cleanups but did not increase revenues.**

When the Petrofund program was enacted in 1987, it required a $10,000 deductible from tank owners and paid only 75 percent of the remaining costs up to $100,000. Since then, legislators eliminated the deductible, raised the maximum reimbursement to 90 percent, and changed the ceiling to $1 million per leak site and $2 million per tank facility. Nevertheless, the fee on wholesale petroleum has remained at one cent per gallon.

Third:

- **Minnesota has made better progress than most other states in identifying and cleaning up leaks.**

Only seven states have completed more cleanups than Minnesota, and most of those are large industrial states. In general, prompt corrective actions are desirable because they will reduce or contain the damage from petroleum contamination, and cleanup costs are likely to be reduced accordingly. However, the speed and vigor of Minnesota's cleanup program has overwhelmed the Petrofund, Petroboard, and staff at the Department of Commerce.

Fourth:

- **Cleanup efforts have proven to be technically difficult and unexpectedly costly, especially when petroleum has contaminated ground water.**

When only the soil is contaminated by petroleum (about half of the Petrofund's leak sites), cleanups can be completed in 4 to 18 months at a cost from $17,692 to $42,508. However, when ground water is contaminated, successful cleanup projects may take six years and cost $217,692 to $542,508. Some projects may continue for 20 to 50 years or more, and others could go on indefinitely unless cleanup technology improves.

Fifth:

- **The Department of Commerce and Petroboard lack sufficient resources to run the reimbursement program cautiously and efficiently.**

The recent increase in the number of reimbursement applications has prevented Petrofund staff from reviewing claims for adequacy and cost control purposes. The claims analysts do their work manually, and they have fallen six months behind in processing incoming applications. Furthermore, Minnesota has fewer staff than most nearby states.

Sixth:

- **Claims against the Petrofund are paid with little effort to ensure that cleanup costs are reasonable and legitimate.**

**Claims against the Petrofund have not been audited by the Department of Commerce.**

Petrofund staff conduct only a basic review of claims, mainly to determine eligibility, not to determine whether charges are appropriate. None of the claims have ever been audited by the Department of Commerce, but the department estimates that the Petrofund could save up to $5 million annually if staff were available to detect and investigate unreasonable, false, and fraudulent claims.

We reviewed two other potential reasons for the Petrofund's deficit but found little evidence to support one and withheld judgment on the other. First, some policy makers suspected that the Pollution Control Agency set Minnesota's cleanup standards so high that they bankrupted the Petrofund. Our results showed that this is not the case.

- **Among the 50 states, Minnesota's soil and water cleanup standards are neither the most stringent nor the most lenient.**

Last June, the Pollution Control Agency increased the level of petroleum contamination it will allow in soil. Also, we found that the agency's water standards allow a higher level of cancer risk than several other states.

Second, policy makers suspected that the deficit could have been caused by rampant fraud and abusive practices by the cleanup industry. This is unlikely, although investigators are actively pursuing a few suspicious cases.

Our analysis of reimbursement data showed:

- **Wide variations in cost can logically be explained by the extent and complexity of cleanup activities.**

**Cleanup projects often are difficult and therefore expensive.**

The larger, more difficult cleanup projects were more expensive mainly because tank owners received more services under PCA-approved plans. For example, contractors installed greater numbers of monitoring wells, excavated larger amounts of soil, and used multiple treatment methods, both for water and soil. However, the agency stressed to us that it is difficult to precisely determine which of many possible approaches will be most effective and economical.

# RECOMMENDATIONS

Over the past five years, the Petrofund reimbursement program has cost about $12.50 per car, yet this has not been enough to meet expenses. And, unless the program fundamentally changes, drivers are likely to pay an additional $5 per

car annually for the foreseeable future and, still, the Petrofund deficit would grow.

We think the Petrofund reimbursement program poses two general questions for policy makers. First, how can the program pay for its current financial obligations? Second, can the state afford to continue the program in its present form?

## Existing Debts

In our opinion, the state should pay tank owners' legitimate claims as soon as possible. In fact, if that does not occur, the potential exists for the Environmental Protection Agency to declare the Petrofund insolvent, that is, unacceptable as a financial assurance mechanism. Minnesota tank owners then would be required to quickly find or develop alternative methods such as self-insurance to assure the federal government that they have the financial resources to pay for cleanups and potential damages to third parties. This would be difficult, particularly for small businesses and non-profit organizations.

**More revenue would help to pay off current obligations.**

Between the $23 million backlog of unprocessed claims and $11 million in unpaid, approved claims, we estimate that the Petrofund is now about one year behind its obligations. To pay tank owners more promptly, the Legislature would need to authorize more revenue. Therefore, we recommend that:

- **The Legislature should consider authorizing the Petroboard to raise revenues on a temporary basis by doubling the penny-per-gallon fee on wholesale petroleum.**

If the Legislature prefers not to give the Petroboard authority to raise the wholesale petroleum fee, it could consider other sources of revenue such as tank fees, tax-exempt bonds, and the general fund. Alternatively, tank owners will wait longer for payment and may face financial hardships.

## Future Considerations

On a longer term basis, the reimbursement program will not be viable unless revenues are enhanced, expenses are reduced, or both. As a first step:

- **The Legislature should consider refocusing the Petrofund program after 1998.**

At that time, most tank owners are required to have leak-resistant tanks, and the primary mission for the reimbursement program should be complete. Thereafter, the Petrofund or some other funding mechanism would be needed in limited cases, for example, to pay for unfinished cleanup projects, leak sites where tank owners cannot be identified, and situations where responsible parties are unable or unwilling to pay. However, the fund's role would be much

smaller than it is now, and the current one-cent fee would probably be adequate when imposed on an irregular basis, as needed.

**In the future, the program should be phased down.**

After 1998, we think tank owners should obtain insurance from sources other than the state and generally be responsible for cleaning up leaks that would result mainly from improper maintenance and operation of the new or upgraded tanks. The state would not need to continue bearing the responsibility of direct reimbursement, particularly since most leaks pose relatively low risk to public health, welfare, and the environment.

If the Legislature were to establish a definite "sunset" date within the next few years, we think it would encourage the development of a market for private insurance. If insurance remained scarce as the sunset date approached, the state could extend the deadline, offer loans or grants instead of direct reimbursement, or assist tank owners through a joint underwriting association, among other options.

## Ways to Limit the Program

In the meantime, the Legislature could take additional steps to reduce program expenses. Although administrative changes could increase efficiency and reduce some costs, we think that the only certain way to significantly reduce expenditures is to limit the program. Thus, we recommend:

- **The Legislature should consider reinstating some of its previous restrictions and adding other limits on Petrofund reimbursements.**

In Chapter 4, we present several options which could be used in combination to reduce the Petrofund's total expenses. Among the possibilities are (1) to restore the $10,000 deductible which the Legislature lifted in 1989 and (2) to return the fund's share of cleanup costs to the original 75 percent.

**Meantime, Petrofund payments could be limited.**

If claimants had paid a $10,000 deductible since the program began, we estimate that the Petrofund would have saved about $16 million or 22 percent of expenditures through June 1992. If the Legislature had reinstated the same deductible for fiscal year 1993, when the Department of Commerce expects that the Petroboard will approve payments of about $37 million, the Petrofund could have saved roughly $8 million. However, a deductible would be a major financial burden for some tank owners. To address special needs, policy makers could consider reimbursing tank owners different amounts depending on their financial resources.

The Legislature raised the fund's share of cleanup costs from 75 percent to 90 percent in 1989. If coverage for fiscal year 1993 had been set at 75 percent, with the $10,000 deductible, we estimate that the Petrofund could have saved another $5 million. Also, tank owners' economic self-interest would have been stimulated, and that might have helped to avoid some costs.

Together, these two measures could have eliminated the Petrofund's current deficit, but they would not be sufficient to pay for the six-month backlog of unprocessed claims. To achieve more savings, we suggest that the Legislature consider limiting Petrofund reimbursement to certain types of tanks, classes of owners, and situations.

For example, the Legislature could require large petroleum marketers to pay a higher percentage of cleanup costs than small businesses, government units, and nonprofit organizations. The Legislature could restrict coverage to underground tanks, as other states often do, eliminate coverage for small residential and farm tanks that are not subject to federal financial assurance requirements, and pay only those tank owners who fully comply and cooperate with rules and regulations. The Legislature also could limit reimbursement to leak sites with the greatest threat to public health and the environment and stop paying for ongoing costs of cleanup projects after a certain period of time, such as five years.

# ADMINISTRATIVE CHANGES

The Petroboard has acknowledged that it has been unable to carefully review or keep up with the volume of reimbursement claims it has received over the past two years. Claimants now must wait six months for their applications to reach the board, plus another four to five months after the Petroboard approves payment. Staff currently spend considerable time preparing typewritten, two-page summaries of claims for case-by-case review by the Petroboard.

**The Petroboard staff should pay routine claims from a schedule of prices.**

In general, we found that the Petroboard spends too much time on the details of routine claims payment. By delegating much of this activity, the board could spend more time developing rules and policies. This would further expedite claims processing and is the current practice in most of the states we surveyed.

To reduce payment delays and increase productivity in the future, we recommend that:

- **The Legislature should amend *Minn. Stat.* §115C.09 to require the Petroboard to delegate authority to the executive director and staff to pay routine, uncontested claims.**

The Petroboard would continue to hear appeals from dissatisfied claimants and could decide on payment of large claims, for example, those over $75,000. These would amount to about 35 to 50 claims per meeting.

To facilitate the delegation of authority to staff:

- **The Petroboard should promulgate a standard schedule of prices for reimbursement of specific cleanup services.**

Formal price guidelines would provide a basis for staff reimbursement decisions and could help to reduce expenses to the Petrofund by strongly encouraging tank owners to select economical contractors. Some other states have already implemented this method of cost control using their own and national data.

Although the Legislature mandated a study of cleanup costs for consideration in 1993, the study was performed by an active cleanup contractor, and some data entry services were donated by a petroleum industry association. Because these parties were not totally disinterested in the results, we think the study's price estimates should be carefully reviewed before they are used to determine future Petrofund payments.

By limiting the Petroboard's direct involvement in payment decisions, the delegation of authority would also reduce the potential for conflicts of interest between claimants and board members, some of whom represent the petroleum industry. To reduce this potential even more, the Legislature could change the board to an advisory group, as in Wisconsin, or entirely reconstitute it.

## The Department of Commerce needs more resources to administer the Petrofund efficiently.

Further, we recommend that:

- **The Legislature should appropriate sufficient money from the Petrofund to allow the Department of Commerce to audit and process claims efficiently.**

In our opinion, the Petrofund needs additional resources and renewed attention. At a minimum, we suggest hiring an auditor, installing an automated claims processing system, and adding staff with technical expertise in claims management, insurance, and statistics.

In addition, the reimbursement program requires more than two claims analysts, who could be state employees or third-party administrators. We suggest that the Department of Commerce study its own and other resources, and then prepare an appropriate request for the Legislature's consideration.

Finally, we recommend that:

- **The Petroboard should develop a clear set of criteria for reimbursement, including the adopted price guidelines, and disseminate the information to all tank owners as soon as they report leaks to the Pollution Control Agency.**

The criteria could be added to the standard information packet that the Pollution Control Agency sends to tank owners after they call to report leaks. Currently, the agency outlines the general requirements for cleaning up leaks and gives only a little information on reimbursement. We think the added cost to mail specific reimbursement information would be more than covered by a reduction in the number of faulty reimbursement applications that tank owners later submit.

# SUMMARY

Overall, we think the petroleum storage tank cleanup program has been beneficial to the state. However, its success has exceeded the resources available to the Petrofund reimbursement program. Legislators expanded the reimbursement program but did not provide commensurate revenues or resources to adequately support the changes. We think it is now time for policy makers to address the program's financial and administrative problems, and we hope this report will provide useful guidance.

# Introduction

The Petroleum Tank Compensation Fund ("Petrofund") is designed to offset most of the cost to clean up soil and water contamination that usually results from leaking petroleum storage tanks. Service station owners and others in the petroleum industry have benefited most directly, but the fund also has reduced financial burdens on churches, schools, cities, counties, and other tank owners. Moreover, by encouraging tank owners to clean up contaminated soil and ground water, the Petrofund has helped to improve the environment for all citizens while reducing health risks and physical dangers caused by petroleum leaks and spills.

**The Petrofund has been short of money for more than a year.**

It is costly and technically difficult to clean up petroleum contamination and, since October 1991, demand for reimbursement has exceeded the Petrofund's ability to pay. Through June 1992, more than $72 million was approved to pay for only about 2,000 cleanup projects, half of which were incomplete. By 1998, when the federal government requires leak-resistant tanks, the Pollution Control Agency estimates that 9,500 more leak sites will be eligible for the program.

In light of the Petrofund deficit and the amount of money which has already been spent, the Legislative Audit Commission directed our office to study the reimbursement program and review current cost control mechanisms. We focused mainly on the Petrofund which is administered by the Department of Commerce, but our report also describes the cleanup program which is administered by the Pollution Control Agency.

We addressed the following questions:

- **Are Minnesota's cleanup standards and reimbursement levels appropriate? What does the federal government require, and how do other states manage their programs?**

- **What services are needed to clean up a contaminated petroleum storage tank site, and what is the cost? What accounts for variations?**

- **How well does the Department of Commerce run the reimbursement program? How does the Petroleum Tank Release**

**Compensation Board make specific reimbursement decisions? Would procedural and organizational changes promote efficiency?**

- **Why is the Petrofund in deficit, and what should be done about it?**

- **Are additional measures needed to reduce expenses and protect the Petrofund from possible fraud and abuse?**

To answer these questions, we analyzed data from the Department of Commerce and Pollution Control Agency and reviewed applicable laws and policies. We attended board meetings, spoke with industry representatives, and interviewed program administrators in Minnesota, the U.S. Environmental Protection Agency, and neighboring states. Also, we visited a tank excavation, testing lab, and several cleanup sites.

Our report is organized into four chapters. Chapter 1 explains why the Legislature created the Petrofund, who governs it, and how the reimbursement program has changed over time. Chapter 2 reviews the cleanup process and standards which are enforced by the Pollution Control Agency. Chapter 3 includes our evaluation of Minnesota's reimbursement program. Chapter 4 presents our recommendations to reduce costs while increasing the efficiency of the reimbursement program. We also suggest ways to deal with the Petrofund deficit.

# Background

## CHAPTER 1

In 1987, the Legislature unanimously approved a program to reimburse owners for most of their costs to clean up leaks and spills from petroleum storage tanks.[1] The program has two purposes: to protect the environment and public health by encouraging rapid and thorough cleanups, and to reduce the cost of compliance with federal regulations that require tank owners to promptly clean up leaks.[2]

Minnesota is one of many states that chose to encourage prompt cleanups and reduce financial hardships on tank owners by providing direct financial assistance for cleanups. Federal regulations require tank owners to demonstrate that they have up to $1 million of financial assurance to cover potential cleanup costs and damages to others.[3] Since private insurance for tank leaks was scarce and other alternatives were not available to small businesses, the state-administered Petrofund provided a mechanism to meet this requirement.

**The Legislature expanded the reimbursement program but not revenues.**

In Minnesota, the Pollution Control Agency (PCA) is responsible for registering petroleum tanks, ensuring compliance with state and federal tank standards, responding to emergencies caused by petroleum leaks, and regulating cleanups. PCA determines which sites must be cleaned up, how much to clean up, and how the cleanup should be done. A five-member Petroleum Tank Release Compensation Board, known as the "Petroboard," later reviews claims from tank owners for reimbursement of cleanup expenses. The Petroboard is staffed by the Department of Commerce, and reimbursement comes from the Petroleum Tank Release Compensation Fund, known as the "Petrofund."

The Petrofund's revenues come from a one-cent-per-gallon fee on wholesale petroleum. This has not been sufficient to meet the volume and cost of claims for reimbursement from tank owners. As we show in this chapter, one important reason for the shortfall is that:

- **The Legislature has significantly expanded the Petrofund reimbursement program without increasing revenues.**

1 *Minn. Stat.* Ch. 115C.

2 Throughout this report, we use the term "leak" broadly to include spills, overflows, and various human, mechanical, and structural failures associated with tanks and piping. A synonymous term, found in statutes and other sources, is "release."

3 Financial assurance mechanisms include private insurance, self-insurance, letters of credit, surety bonds, and other arrangements.

Since the Petrofund was created in 1987, the Legislature has eliminated the $10,000 deductible, increased the reimbursable portion of cleanup costs from 75 to 90 percent, and raised the maximum reimbursement from $100,000 to $1 million. The wholesale petroleum fee has remained the same, and demand for petroleum has been steady, so the amount of revenue available to the Petrofund is essentially fixed.

In the remainder of Chapter 1, we describe the extent and cost of Minnesota's petroleum tank leaks and the origin of its cleanup and reimbursement programs. We ask:

- **How many petroleum tanks are there in Minnesota, who owns them, and how many of them have leaked?**
- **How much does it cost to clean up leak sites? How much has the Petrofund spent so far?**
- **How is Minnesota's reimbursement program designed, and how has it changed since its creation in 1987? What does the federal government require?**

# TANK INVENTORY

**Thousands of tanks are eligible for reimbursement throughout the state.**

Since 1985, the Pollution Control Agency has been developing a detailed inventory of the state's underground storage tanks.[4] As of September 1992, PCA had logged 44,043 underground tanks at 15,388 locations with an average of 2.9 tanks per site.

About half (47 percent) of the underground tanks contain gasoline. Twenty-two percent hold fuel oil, and 16 percent diesel fuel. The remaining 15 percent of underground tanks contain various products including waste oil, motor oil, aviation gas, and kerosene. For a service station, each tank typically holds at least 10,000 gallons.

As shown in Table 1.1, service stations, bulk petroleum dealers, industry, and manufacturers own over half (56 percent) of the registered underground storage tanks. Non-profit organizations own about 20 percent of the tanks, including seven percent owned by schools, universities, and colleges, 10 percent by city, county, and state governments, and one or two percent by churches and hospitals, respectively. Other tank owners include businesses such as auto dealers, construction companies, and marinas.

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*4* To be in compliance with state and federal regulations, most of the underground storage tanks should have been registered by 1987. However, the inventory has grown by 8,000 or 22 percent since 1989. See Pollution Control Agency, *Minnesota's Storage Tank Program Annual Report, 1989* (January 1990), 5.

## Table 1.1: Registered Underground Tank Owners

| | Sites | | Tanks | | Average Number of Tanks Per Site |
|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | |
| BUSINESS | | | | | |
| Service stations, bulk dealers | 4,373 | 28% | 18,509 | 42% | 4.2 |
| Industry, manufacturing | 2,239 | 15 | 6,027 | 14 | 2.7 |
| Auto care, auto parts | 680 | 4 | 2,052 | 5 | 3.0 |
| Vehicle/trailer dealers, car rental agencies | 427 | 3 | 1,833 | 4 | 4.3 |
| Retail stores | 383 | 2 | 868 | 2 | 2.3 |
| Malls, office buildings, parking lots | 296 | 2 | 640 | 1 | 2.2 |
| Condominiums, apartments, residences, trailer courts | 580 | 4 | 790 | 2 | 1.4 |
| Marinas, bait stores, resorts, camp grounds | 291 | 2 | 601 | 1 | 2.1 |
| Banks, financial institutions, brokers, insurance | 84 | 1 | 140 | <1 | 1.7 |
| Radio, TV, newspapers | 108 | 1 | 225 | 1 | 2.1 |
| Construction companies | 159 | 1 | 390 | 1 | 2.5 |
| Transportation companies | 271 | 2 | 846 | 2 | 3.1 |
| Landfills, rubbish haulers | 60 | <1 | 132 | <1 | 2.2 |
| Railroads | 100 | 1 | 194 | <1 | 1.9 |
| Utilities | 436 | 3 | 872 | 2 | 2.0 |
| Hotels, motels, restaurants | 75 | <1 | 143 | <1 | 1.9 |
| AGRICULTURE | 327 | 2 | 620 | 1 | 1.9 |
| INSTITUTIONS | | | | | |
| Schools, universities, colleges | 1,653 | 11 | 3,009 | 7 | 1.8 |
| Hospitals, medical centers, nursing and children's homes | 485 | 3 | 870 | 2 | 1.8 |
| Churches, cemetaries, social service organizations | 392 | 3 | 543 | 1 | 1.4 |
| GOVERNMENT | | | | | |
| Federal, Indian | 283 | 2 | 573 | 1 | 2.0 |
| State | 507 | 3 | 1,301 | 3 | 2.6 |
| County | 489 | 3 | 1,260 | 3 | 2.6 |
| City | 690 | 4 | 1,605 | 4 | 2.3 |
| Total | 15,388 | 100% | 44,043 | 100% | 2.9 |

Source: Pollution Control Agency as of September 10, 1992.

PCA began registering aboveground tanks in 1990. The inventory so far includes 15,094 aboveground tanks at 3,391 sites, but the agency estimates that another 3,000 to 5,000 remain to be included. Many of the registered aboveground tanks are part of large tank facilities, such as refineries, that are ineligible for Petrofund reimbursement.

# KNOWN LEAK SITES

PCA has identified a total of 5,374 petroleum leak sites statewide. Although some of these predate the Petrofund program, most (4,904) have been reported only in the past five years. As shown by Table 1.2, leaks have occurred in every region of the state, roughly in proportion to the concentration of population and industry.

## Table 1.2: Petroleum Storage Tank Leaks by Region

| | | Leak Sites | |
|---|---|---|---|
| Region | Headquarters | Number | Percent |
| 1 - Northeast | Duluth | 623 | 12% |
| 2 - North Central | Brainerd | 560 | 10 |
| 3 - Northwest | Detroit Lakes | 551 | 10 |
| 4 - Southwest | Marshall | 552 | 10 |
| 5 - Southeast | Rochester | 861 | 16 |
| Seven-county Twin Cities area | St. Paul | 2,227 | 41 |
| Total | | 5,374 | 99% |

Note: Regions are defined by the Pollution Control Agency. Total includes all above- and underground leaks, some predating the Petrofund reimbursement program. Percentages do not total 100 due to rounding error.

Source: Pollution Control Agency as of September 10, 1992.

**The fund pays for leaks from underground, aboveground, and small, unregistered tanks.**

Petroleum storage units are typically buried underground, but owners of leaking tanks often know that they have a problem. Service station owners may discover that their gasoline inventory unaccountably has disappeared, or that suppliers delivered more than their tanks could hold. In other cases, leaks and spills may accumulate over time and go unnoticed until owners install new tanks or neighbors complain about gasoline in their water or vapors in their basements. Local officials and the Department of Health sometimes detect leaks through observation and routine water testing.

The Petrofund program also covers leaks from some aboveground tanks. Although such tanks are mostly in plain view, tank bottoms may rest directly on a pad of earth, and holes can be concealed. They are also subject to overflows and accumulated spills in the surrounding area. Further, aboveground tanks have been vandalized, tipped accidentally, and ruptured by falling trees. Although PCA cannot determine how many of the state's petroleum leaks are from underground versus aboveground tanks, the agency has conducted case studies demonstrating that the type and extent of contamination is similar.

# POTENTIAL LEAKS

We analyzed data from the underground tank inventory and learned that most tanks (84 percent) are made of bare steel which almost inevitably corrodes. Newer tanks are made of non-corrosive materials, coated with fiberglass, or protected by other means, and may include leak detection devices and containment units.

According to PCA, at least 40 percent of the bare steel underground tanks have been in service longer than their expected lifetime of 20 years.[5] Because of the tanks' generally poor condition, the agency estimated that 10 to 30 percent are leaking or will leak because of corrosion. In addition, up to 45 percent could have a spill or leak because of overfilling or bad pipe fittings.

**Old, leaky petroleum storage tanks with piles of clean and contaminated soil.**

**By 1998, most tanks must be replaced or upgraded to prevent future leaks.**

In a recent report to the Governor and Legislature, PCA estimated that the Petrofund will be called upon to pay for a total of 11,500 cleanups, including ones already begun, by 1998.[6] At that time, the state and federal government require most owners to have upgraded or replaced their old tanks with leak-resistant models. However, in our opinion:

5 Pollution Control Agency, *1989 Tank Program Annual Report.*

6 Department of Commerce and Pollution Control Agency, *Report to the Governor and the Legislature on the Petroleum Tank Release Cleanup Program* (St. Paul, 1992), 11. The 11,500 estimated cleanups are 75 percent of the registered underground tank sites.

- **It is difficult to project accurately the total number of tank leak sites which ultimately may be eligible for reimbursement from the Petrofund.**

As noted above, most leak sites have been reported only in the past few years since the Petrofund was established. Although PCA required the tanks to be registered by 1987, the number of registrations grew from 36,000 in 1989 to 44,043 in 1992. The agency's inventory of aboveground storage tanks began in 1990 and is incomplete.

Adding to the difficulty of estimating the total number of eligible leak sites, the Petrofund provides reimbursement to clean up heating oil and other leaks from tanks that need not be registered. Further, the minutes of the Petroboard show that hundreds of unregistered underground tanks have been discovered after petroleum leaks became apparent.

In Minnesota and elsewhere, tanks often remain unused but partially full at the sites of former filling stations which have been converted to other businesses. In other cases, new property owners are surprised to find tanks during construction projects. For example, the Department of Transportation told us that it has inherited about 225 leak sites in the course of highway construction. Annual cleanup costs for these sites have grown from about $1 million to $1.8 million in the past two years, but last summer the department had submitted only two of its 225 claims to the Petroboard.

# CLEANUP COSTS

**Only about half the Petrofund claims are for completed cleanups.**

We examined the cost per leak site to the Petrofund from its first payment in 1988 through June 1992.[7] To do our analysis, we obtained records from the Department of Commerce and combined the information with characteristics of the leak sites recorded by the Pollution Control Agency. In all, the Petroboard made payment decisions on 1,853 leak sites during the study period.[8]

Only about half (48 percent) of the claims were for completed cleanups. Fifteen to 20 percent of the sites where the Petrofund provided some reimbursement in 1988 through 1990 remained open in July 1992. Work was still in progress at 45 percent of the sites reimbursed by the Petroboard in 1991, and 69 percent of the sites approved for payment in the first half of 1992 remained open. For most of the sites still open, the Petroboard will receive additional reimbursement claims.

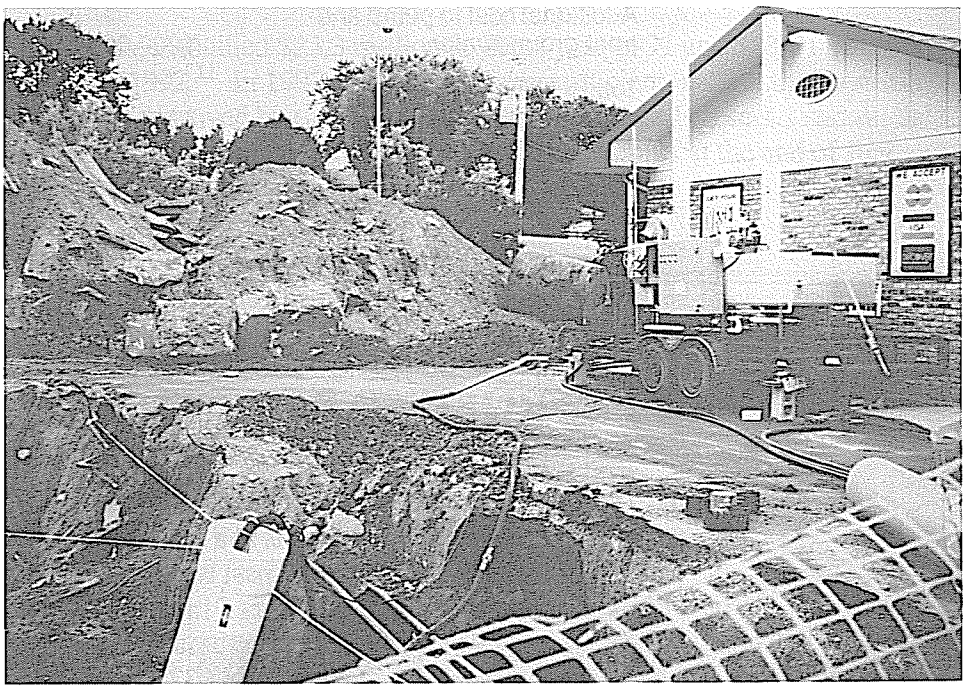
7 In general, the amount approved for reimbursement is 90 percent of the actual cleanup cost. Actual, approved payments cannot be made until the Petrofund accumulates sufficient revenue.

8 About 50 of the sites involved more than one owner, so the number of claims against the Petroboard is slightly higher than the number of reimbursed leak sites.

Our analysis revealed that subsequent claims can be as costly as initial claims against the Petrofund. In total, half of the payments so far have been less than $22,000, but the cost per site has ranged from $222 to $842,595, and the average has been $39,044. As we explain in Chapter 2, technical and geological factors help to explain such large differences. For example, the permeability of the soil, the type and amount of petroleum which leaked, the distance between the leak site and aquifers, the direction of ground water flow, and the methods used in corrective actions, all influence a site's cleanup cost.

The most important cost factor is whether or not ground water has been contaminated. Recently, consultants to the U.S. Environmental Protection Agency (EPA) estimated that a successfully completed ground water cleanup in Minnesota would take nearly six years (69 months) on the average and would cost at least $217,692.[9] By comparison, they estimated that soil contamination could be cleaned up in 4 to 18 months at a total cost below $43,000.

**Cleanups are especially difficult and costly when water is polluted.**



**A soil and water cleanup project at a service station.**

As shown in Table 1.3, the estimated total cost of soil and ground water cleanups varies widely across the United States. The EPA consultants estimated that cleanup prices in Minnesota were within or below the range for the nation as a whole, but services for ground water and off-site soil treatment could be more expensive. They told us that the higher-priced ground water treatment services reflect a greater degree of technical skill among Minnesota's engineering firms. Officials at PCA indicated that Minnesota sometimes spends more for off-site soil treatment than other states because Minnesota's policy is to discourage the simple use of landfills, which merely moves contaminated soil

9 Industrial Economics, Inc., *The Impacts of Removing the TCLP Deferral for Petroleum-Contaminated Media at Underground Storage Tank Sites* (Cambridge, Massachusetts: August 1992 draft).

## Table 1.3: Estimated Costs for Complete Cleanups, Minnesota and National

| | Minnesota | U.S. |
|---|---|---|
| SERVICES | | |
| Administration | $4,000 | $4,000-15,254 |
| Regulatory staff | 192-1,008 | 200-5,000 |
| Sampling, monitoring | 1,300 | 1,300-24,785 |
| Lab tests, analysis | 1,700 | 500-3,052 |
| SOIL | | |
| Excavation | $4,500-6,000 | $600-9,000 |
| Transport | 3,000-4,500 | 1,500-6,000 |
| Off-site treatment | 1,500-21,000 | 5,400-13,200 |
| Replacement soil | 1,500-3,000 | 1,200-3,300 |
| Total if soil contamination only | $17,692-$42,508 | $14,700-$79,591 |
| Additional cost to pump and treat groundwater | $200,000-$500,000 | $100,000-$500,000 |
| Total if soil and water contamination | $217,692-$542,508 | $114,700-$579,591 |

Source: Industrial Economics, Inc., August 5, 1992, for U.S. Environmental Protection Agency.

from one location to another. Instead, contaminated soil is incinerated or neutralized by micro-organisms over a long period at so-called landfarms.

# PETROFUND DEFICIT

**The Petroboard has approved more claims than the Petrofund can promptly pay.**

Through June 1992, we found that the Petrofund had made or approved payment on a total of 1,899 claims at a cost of about $72 million. Nearly 80 percent of the claims came in the past two years. Records showed that the annual number of claims increased from 5 in calendar year 1988 to 975 in 1991. As shown in Table 1.4, the Petroboard made or approved payments of $79,986 in fiscal year 1988 compared with $44,378,382 in fiscal year 1992.

When the Petrofund balance falls below $2 million, the Petroboard notifies the Department of Revenue, which must impose the penny-per-gallon fee for a period of four months. In the first three years of the reimbursement program, the Petroboard authorized fee collection sporadically, as needed. However, with the recent increase in claims, it has authorized the fee constantly since July 1991.[10] Despite this,

- **The Petrofund is exhausted and unable to promptly pay claims.**

*10* Recently the Petroboard voted to continue the fee through June 1993.

## Table 1.4: Payments Made or Approved by the Petroboard, Fiscal Years 1988-92

| | Dollars |
|---|---|
| 1988 | $ 78,986 |
| 1989 | 818,576 |
| 1990 | 11,307,569 |
| 1991 | 15,617,643 |
| 1992[a] | 44,378,382 |
| Total | $72,201,156 |

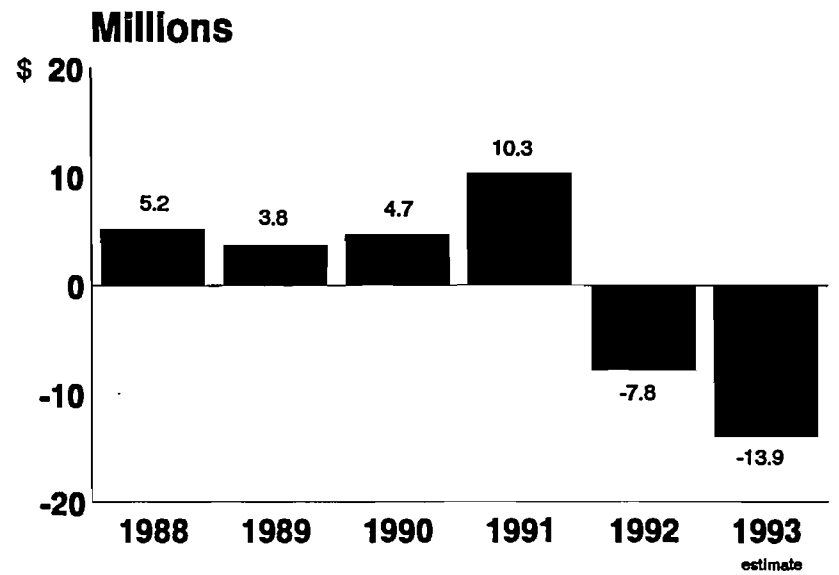
Source: Department of Commerce.

[a]The department also had a backlog of 529 unprocessed claims at the end of fiscal year 1992.

Fund revenues totalled $23.3 million in fiscal year 1991 and $28.0 million in fiscal year 1992.[11] In 1992, this has not been sufficient to meet the payment obligations approved by the Petroboard. As a result, as Figure 1.1 shows, the Petrofund balance declined from a $10.3 million surplus at the end of June 1991 to a $7.8 million deficit by June 1992.

**The Petrofund deficit is growing.**

Figure 1.1: Petrofund Revenues Minus Expenses, Fiscal Years 1988-93




Source: Department of Commerce.

*11* The fee provided revenues during eight months of fiscal year 1991 and 11 months of fiscal year 1992.

Board minutes show that the Petrofund first lacked money ($600,000) to pay approved claims in October 1991. By December 1991, the fund needed $4 milion to promptly discharge its obligations. During the spring of 1992, the shortfall ran $6 to $8 million, and tank owners had to wait several months for payment after the Petroboard approved their claims. One year after the deficit first occurred, it had grown to about $11 million, and the Department of Commerce predicted that it would be nearly $14 million by June 1993. Furthermore, the size of the deficit has been moderated by a backlog of 500 to 600 unprocessed claims which could cost more than $20 million.[12]

Over the next six years, PCA and the Department of Commerce have projected that the Petroboard will approve reimbursements of $50 to $60 million annually or an additional $300 to $360 million.[13] If revenues continue at roughly $30 million each year, this suggests that the shortfall would total $150 to $210 million by 1998, including the current deficit and estimated cost of unprocessed claims.

However, the Petrofund's actual future deficit could be much larger. Assuming that about 9,500 more cleanups are needed, we estimated the cost to complete current and future projects.[14] The results suggested that the projects could cost an average of $70,000, and the Petrofund could be liable for a total of about $800 million, including reimbursements already made. In contrast, the program would cost only about $450 million if our estimate were based on the current average payment of $39,044.

**Including past and future cleanups, the total bill could come to $800 million.**

At the current maximum rate of $30 million in annual revenues, either estimate of the program's total cost implies that the one-cent-per-gallon fee would have to be collected for several years beyond 1998. If the total is only about $450 million, it would take roughly 12 years to generate the remaining $378 million. If the total ultimately reaches $800 million, it would take about 24 years for the one-cent fee to generate the balance of $728 million.

Although the federal government does not require states to reimburse tank owners, EPA officials have expressed serious concern about the Petrofund's current and future deficit. First, the deficit belies the principle of financial assurance, which the Petrofund was designed to provide. Second, long delays in payment could discourage tank owners from cleaning up petroleum leak sites. A representative of the agency met with the Petroboard early in 1992 to discuss the matter, and EPA has since drafted guidelines to determine when funds such as the Petrofund should be declared insolvent.[15]

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*12* Currently, claimants must wait six months for Commerce Department staff to review their claims and four to five months for their checks after the Petroboard approves payment. We discuss the backlog of unprocessed claims in Chapter 3.

*13* Department of Commerce and Pollution Control Agency, *1992 Report to the Governor and the Legislature.*

*14* To make our estimate, we combined data on leak sites reimbursed to date by the Petrofund with the EPA consultants' estimated costs for completed cleanups, which are shown in Table 1.3.

*15* The draft guidelines have been delayed and may not be issued in light of the potential number of insolvencies nationwide.

In response to EPA's concerns, the Petroboard passed a resolution in March 1992 to recommend that the Legislature double the penny-per-gallon fee on wholesale petroleum. (See Figure 3.2 in Chapter 3.) We understand that the board and at least one trade association plan to pursue the resolution at the Legislature in 1993. However, Minnesota policy makers are not only concerned about the deficit and payment delays but also about the number and cost of cleanups, the program's benefits, and the appropriateness of state standards governing cleanup projects. We address these concerns in later sections of our report.

**The EPA is concerned and could declare the Petrofund insolvent.**

# PROGRAM ORIGINS

PCA developed a petroleum tank cleanup program because its existing programs did not effectively address leaking petroleum storage tanks and because the federal government encourages states to enforce federal regulations that require responsible parties to clean up tank leaks. In this section, we summarize the federal legislation that led to the creation of the petroleum cleanup program and review the evolution of Minnesota's reimbursement program from its inception to its present form.

## Federal Requirements

In 1976, Congress passed the Resource Conservation and Recovery Act to regulate hazardous wastes such as chemical solvents, irritants, corrosives, explosives, poisons, and other products that pose a hazard to public health and the environment.[16] As with other federal pollution control programs, states have freedom to determine program specifics, but their hazardous waste regulations must be at least as strict as the federal requirements. In 1985, the U.S. Environmental Protection Agency (EPA) approved Minnesota's hazardous waste program and authorized the Pollution Control Agency (PCA) to regulate the generation, storage, treatment, and disposal of hazardous waste.

Besides the new regulations for handling and disposing of hazardous waste, Congress approved a mechanism to clean up soil and ground water pollution from past disposal of hazardous waste. In 1980, it required responsible parties to clean up the waste sites and created a "superfund" financed by a tax on oil to pay for cleanups where responsible parties cannot be found or are unable to pay.[17] Each state got some money to help administer the program. In 1983, Minnesota passed its own superfund law as a supplement to the federal program.[18]

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*16 Public Law* 94-580.

*17 Public Law* 96-510, the Comprehensive Environmental Response, Compensation, and Liability Act.

*18 Minn. Stat.* Ch. 115B.

The federal and state superfund programs specifically exclude petroleum products from their definition of hazardous waste, and Congress later realized the need for a separate program to address pollution from underground petroleum storage tanks. Congress amended the Resource Conservation and Recovery Act in 1984 and required EPA to adopt regulations for the new program.[19] With some exceptions, underground storage tank owners must report the age, size, type, and uses of their tanks to state or local agencies. Exceptions include tanks containing materials regulated under other federal programs, tanks for heating oil used on site, farm and residential tanks with 1,100 gallon or less capacity, and any tank with a capacity of less than 110 gallons.[20]

**Petroleum leaks are regulated separately from hazardous wastes.**

In 1986, Congress again amended the Resource Conservation and Recovery Act and specifically required EPA to adopt standards for underground storage tank leak detection, prevention, and correction, including design and performance requirements for tanks and leak monitoring.[21] Again, the federal law allowed states to develop their own regulatory programs if they were no less stringent than the minimum federal requirements and included provisions for adequate enforcement. The 1986 amendments also created the Leaking Underground Storage Tank Trust Fund, which is funded by a one-tenth cent-per-gallon federal gas tax. Each year, Congress allots some money from the fund for program administration, enforcement, and cleanups where the tank owner is unknown or unable to pay. EPA allocates that money to its ten regional offices which decide how much money to give to various states. In recent years, EPA's Region V, which includes Minnesota, has provided federal money for program staff but not specific cleanup tasks.

EPA developed and published its final rules for tank design and performance standards in September 1988, and they became effective on December 23, 1988.[22] The rules required all tanks installed after 1988 to be protected from corrosion, spills, and overflows and to have underground leak detection systems. Older tanks must be upgraded to meet these standards or be replaced. Figure 1.2 presents EPA's timetable for tanks to meet the standards.

Since it was clear that petroleum tank cleanups would be costly, Congress required EPA to determine by regulation how much financial coverage tank owners should have for corrective action plus third-party damages.[23] EPA published these regulations in October 1988. The requirements for financial assurance vary depending on tank capacity and the owner's status. For

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*19 Public Law* 84-272. By definition, underground storage tanks have at least ten percent of their volume below the earth's surface. This excludes tanks on or above the floor of an underground area or basement.

*20* The full list of exemptions is shown in Figure 1.3, later in this chapter.

*21 Public Law* 99-499, the Superfund Amendments and Reauthorization Act.

*22* 40 *CFR* Parts 280-281.

*23* Federal and state regulations distinguish between tank "owners" and "operators." Owners hold title, control, or possess interest in a tank, and operators are responsible for the daily operation of a tank. Both are responsible for cleaning up leaks. If the owner and operator are not the same person, they must decide which one of them provides the financial assurance. In this report, we use the term "owner" to refer to the party providing the financial assurance.

**Figure 1.2: Deadlines for EPA Storage Tank Requirements**

| | Deadlines for: | |
|---|---|---|
| | Leak Detection Monitoring | Corrosion Protection and Spill and Overflow Prevention Equipment |
| EXISTING TANKS | | |
| 25 + years (or unknown age) | December 1989 | December 1998 |
| 20-24 years | December 1990 | December 1998 |
| 15-19 years | December 1991 | December 1998 |
| 10-14 years | December 1992 | December 1998 |
| Under 10 years | December 1993 | December 1998 |
| NEW TANKS | At installation | At installation |

Source: U.S. Environmental Protection Agency.

Note: "Existing" tanks are those installed before December 23, 1988.

smaller tanks and owners not engaged in the production, refining, or marketing of petroleum, $500,000 is sufficient. For underground storage tanks larger than 10,000 gallons or any underground tank at a facility that produces, refines, or markets petroleum, owners must show that they can pay up to $1 million. For tank facilities (groups of tanks within a contiguous area under one ownership), EPA requires financial assurance of up to to $2 million, depending on the number of tanks. However, EPA only requires financial assurance for tanks subject to federal regulations.

EPA planned to phase in its financial assurance requirements during 1989 and 1990, with petroleum marketers and those with more than 1,000 tanks complying sooner. However, the agency extended the deadline to 1991 for petroleum marketers with 13 to 99 tanks and to 1993 for marketers with fewer than 13 tanks and non-marketers with less than $20 million in net worth.

**The Petrofund is optional, but most other states have something like it.**

Federal regulations do not require states to establish a fund, such as Minnesota's Petrofund, to provide the financial coverage and reimburse tank owners for their costs. If a state establishes a fund, EPA approves it as an acceptable financial assurance mechanism only if it appears that revenues will be sufficient to keep pace with expenditures. States can provide full or partial reimbursement but must require owners to demonstrate coverage for costs that would not be covered by their fund. States can restrict eligibility to those who comply with federal and state tank regulations.

Because private insurance for old, unprotected tanks is difficult or impossible to obtain, 43 states have created funds.[24] As of April 1992, EPA had approved 29 state funds, including Minnesota's. EPA was reviewing proposals from

*24* Hawaii, Maryland, New Jersey, New York, Oregon, Rhode Island, Washington, and the District of Columbia do not use state funds to reimburse tank owners.

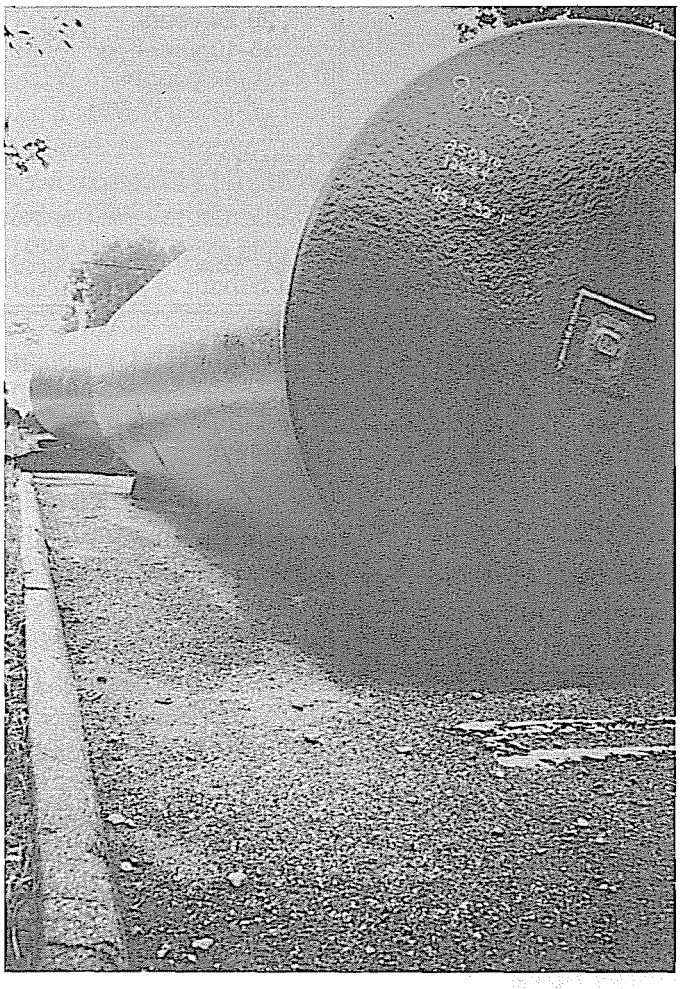
seven states, and seven others had funds which were not yet submitted for approval.

## Creation of Minnesota's Petrofund

In response to Congress's 1984 legislation, the Minnesota Legislature in 1985 required underground petroleum storage tank owners to register their tanks by June 1, 1986.[25] The Pollution Control Agency later changed the deadline to December 1987 because tank owners did not comply on schedule. The 1985 legislation also required PCA to adopt rules establishing health and environmental safeguards for tanks.[26] Later, the Legislature required owners of above-ground storage tanks to register them by June 1, 1990.[27]

**Legislators passed the Petrofund program unanimously in 1987.**

The Minnesota Legislature established the Petrofund in 1987, before EPA regulations became final in 1988.[28] Recognizing that owners would have difficulty paying for cleanups and upgrading tanks at the same time, members of the petroleum industry worked with PCA to draft legislation to create a state trust fund to defray cleanup costs associated with leaks and spills. Tank owners would still be responsible for removing and



**New, fiberglass-coated tanks awaiting installation.**

25 *Minn. Laws* (1st Spec. Sess. 1985), Ch. 13, Sections 236-239.

26 *Minn. Rules* §§7005.4010-7005.4050.

27 *Minn. Laws* (1989), Ch. 226.

28 *Minn. Laws* (1987), Ch. 389.

replacing their old tanks.[29] Proponents successfully argued that a fund would encourage tank owners to comply with the new federal requirements and report leaks promptly.

By law, the Petrofund can be used to reimburse tank owners for cleanups, pay the Department of Commerce to administer the reimbursement program, and pay PCA to administer the cleanup program, train and certify tank installers, and take corrective actions itself when necessary.[30]

It is noteworthy that Minnesota's program went beyond federal requirements by covering unregulated tanks and unregulated substances. Figure 1.3 lists the federal exemptions to tank regulation, including financial assurance requirements. Although not subject to federal regulation, Minnesota reimburses for

## Figure 1.3: Tanks Exempted from Federal Financial Assurance Requirements

- Tanks not containing petroleum products
- Tanks with less than 10 percent of their volume below the surface
- Storage tanks on or above the floor of an underground area, such as a basement or tunnel
- Tanks for storing heating oil which is used on site
- Farm or residential tanks with capacity of 1,100 or less or storing motor fuel not used for resale
- Tanks with less than 110 gallons capacity
- Tanks holding a minimum concentration of regulated substances, tanks that serve as emergency backup, and tanks that hold regulated substances for short periods of time and are emptied after each use
- Flow-through process tanks
- Field-constructed tanks
- Tanks containing electrical equipment and hydraulic lifts
- Airport hydrant fueling systems
- Liquid trap and other lines used in oil or gas production
- Tanks containing radioactive materials and tanks used as backup diesel tanks at nuclear facilities
- Tanks containing hazardous wastes regulated under other provisions of the Resource Conservation Recovery Act
- Wastewater treatment tanks regulated by the Clean Water Act
- Septic tanks
- Storm or wastewater collection systems
- Surface impoundments, pits, ponds, or lagoons
- Pipeline systems regulated under the Natural Gas Pipeline Safety Act

Source: U.S. Environmental Protection Agency, *Dollars and Sense: A Summary of the Financial Responsibility Regulations for Underground Storage Tank Systems* (Washington, 1988), 2.

*29* An inter-agency task force later estimated the cost to a small service station to remove an old tank, purchase and install a new tank, and install leak monitoring and spill protection to be from $7,593 to $19,745, depending on the size of the tank. Many of the stations have three or more tanks. See Department of Public Service, *Underground Storage Tank Study Group: Report to Commissioner Perpich* (December 1989), 5.

*30* Each biennium, the Legislature appropriates money from the Petrofund to the Department of Commerce and PCA to administer the cleanup and reimbursement program. In addition, PCA may take action itself and request reimbursement from the Petroboard when a leak poses a clear and immediate danger to public health and safety or when a responsible party cannot be found or refuses to clean up a leak. When and if responsible parties are identified, they are liable for PCA's costs, and the Petrofund may be repaid. Federal funds also help with PCA's program administration, particularly staffing.

cleanups of aboveground tanks, tanks used for heating oil, residential and farm tanks under 1,100 gallons, and any tank under 110 gallons. However, in 1990 Minnesota excluded tanks located at petroleum refineries and tank facilities with over one million gallon capacity.[31] Most of these are aboveground tanks.

The 1987 law established the Petroboard and made it responsible for the Petrofund. The Petroboard consists of the commissioners of Commerce and PCA (or their delegates), two representatives of the petroleum industry, and one representative of the insurance industry. The governor appoints the latter three and designates the chair for four-year terms.

The Petroboard's primary responsibility is to review tank owner requests for reimbursement of cleanup expenses, determine eligibility, and authorize payments from the Petrofund. Before approving reimbursements, the law requires the Petroboard to determine that the cleanup costs were actually incurred and were reasonable and that PCA approved a corrective action plan. The board must also determine reimbursement reductions, as authorized by statute, for tank owners who did not register their tank, if applicable, notify PCA of the release, cooperate with PCA in responding to the release, or take due care in operating the tank. If claimants are dissatisfied with the Petroboard's decision, they can appeal their case to an administrative law judge, but this has happened rarely because the board usually reconsiders such cases itself. The board also administers the Petrofund and approves expenditures.

Although PCA could have run both the reimbursement and cleanup programs, the petroleum industry did not want to give so much power to one agency. Neither did PCA want the dual role of enforcer and payer. In general, the Petrofund reimbursement program was regarded as an insurance program. Thus, it made sense for the Commerce Department to administer the fund, adjudicate claims, and staff the Petroboard. The Commerce Department also regulates insurance, banking, securities, and real estate and provides support for other specialized licensing and regulatory boards.

**Petrofund revenues have not grown because fuel consumption has been flat and the fee has not changed.**

The Petrofund's revenues come from a fee of one cent per gallon on wholesale petroleum, which is imposed when the fund balance falls below $2 million.[32] The Department of Revenue collects the fee, along with state and federal gasoline taxes, from about 800 distributors at their terminals.

In general, the Petrofund fee is passed on to consumers. Recently, it has cost about $5 annually per auto, assuming average fuel efficiency and an average number of miles driven.[33] Since 1985, gasoline and fuel oil consumption in Minnesota has remained relatively constant, between 3.1 and 3.4 billion gallons per year, so the fee can potentially generate revenues of about $30 million

*31* *Minn. Laws* (1990) Ch. 501, Section 7.

*32* The Legislature, in establishing the reimbursement program, loaned the Petrofund $719,200 from the general fund and required the Petrofund to repay the loan by June 30, 1988. *Minn. Laws* (1987) Ch. 389, Section 17.

*33* U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (Washington, 1990).

annually.[34] As noted above, the penny-per-gallon fee generated $28 million in 11 months of fiscal year 1992.

The state Constitution requires all gas tax revenue to go to the highway user tax distribution fund for highway improvement and maintenance, but the Petrofund revenue is considered a "fee" rather than a tax because it can be imposed intermittently.[35] This could raise some legal questions, but the Petrofund's source of revenue has never been challenged in court.

## Expanded Coverage

**Legislators expanded the program partly to reduce hardships for small businesses.**

Soon after the Petrofund reimbursement program was established, it became clear that cleanup costs at some Minnesota sites would exceed the $100,000 cap on reimbursements. Policy makers became concerned about the ability of small gas stations and other tank owners to pay for their share of cleanups, which was then 25 percent. These concerns were formally expressed in a study group report from the Department of Public Service.[36] The report concluded that many small gasoline retailers could not afford to meet EPA's technical and financial assurance requirements and that consumers would find fewer filling stations in outstate Minnesota. The study group suggested several options, including expanded coverage and targeted assistance to small business.

EPA has also recognized that tank owners, particularly independent and rural gas stations, could experience financial distress in meeting technical and financial assurance requirements. It recently estimated that nationwide, the requirements will cause financial hardships for 64 percent of small retail gas station owners (those with less than $1 million in assets) during the next ten years, and 25 percent will file for bankruptcy or close as a result.[37] Prospects were even worse before states created reimbursement funds.

As shown in Figure 1.4, the Minnesota Legislature, in 1989, responded by removing the $10,000 deductible, increasing the percentage of costs eligible for Petrofund reimbursement from 75 to 90, and raising the maximum reimbursement from $100,000 to $250,000 per site. The Legislature also allowed 90 percent reimbursement to non-responsible parties who voluntarily clean up leaks (or 100 percent if PCA directed or asked them to do the cleanup). Further, it allowed the Petroboard to reduce reimbursement when tank owners fail to comply with tank regulations, fail to notify PCA of leaks, fail to cooperate with PCA in the cleanup, or fail to exercise due care in operating tanks. Previously, the law required the Petroboard to deny reimbursement in its entirety

*34* Department of Revenue, *Petroleum Taxes in Minnesota: 1991 Annual Report*, undated, 10.

*35* *Minnesota Constitution*, Art. XIV, Section 10.

*36* Department of Public Service, *Interagency Study Group Report, 1989*. The group included representatives of eight state agencies, and the report included responses from local government, the petroleum industry, and the insurance industry.

*37* U.S. Environmental Protection Agency, *Report to the Senate Committee on Appropriations Regarding Underground Storage Tank Financial Responsibility and Related Issues* (Washington, 1992), IV-3. Financial hardship was defined as expenses exceeding income by at least four percent.

## Figure 1.4: Legislative Expansion of Petrofund Reimbursements

| Year | Nature of Change |
|---|---|
| 1988 | • Allowed 100 percent reimbursement to non-responsible persons who undertake clean-ups in response to a PCA request or order. |
| 1989 | • Removed $10,000 deductible;<br>• Increased the percent of costs eligible for reimbursement from 75 to 90 percent;<br>• Raised the maximum reimbursement from $100,000 to $250,000;<br>• Allowed up to 90 percent reimbursement to non-responsible persons who voluntarily clean up a leak;<br>• Specified that reimbursement be reduced rather than denied when tank owners fail to comply with tank regulations, fail to notify PCA of the leak or spill, fail to cooperate with PCA in the cleanup, or fail to exercise due care in operating the tank. |
| 1990 | • Raised the maximum reimbursement from $250,000 to $1 million per release and $2 million per tank facility. |
| 1991 | • Required the board to reimburse owners for up to 180 days of interest costs associated with financing corrective action;<br>• Allowed owners to apply for reimbursement at preliminary stages of the cleanup;<br>• Set time limits on PCA reviews of cleanup plans and Petroboard consideration of applications for reimbusement. |
| 1992 | • Required consultants and contractors (in addition to tank owners) to notify PCA immediately when they detect petroleum contamination in excess of state guidelines.<br>• Provided that mortgagees who acquire property through foreclosures may be reimbursed for voluntary corrective actions and prohibited the board from reducing their reimbursement below 90 percent;<br>• Allowed political subdivisions to apply for partial reimbursement if responsible persons fail to take corrective action. |

Sources: *Minn. Laws* (1988) Ch. 683, Section 6; (1989) Ch. 226, Sections 1-3; (1990) Ch. 501, Sections 1-7; (1991) Ch. 175, Sections 1-10; (1992) Ch. 490, Section 7; and (1992) Ch. 414, Sections 1-5.

in these situations. In 1990, legislators increased the maximum fund coverage to $1 million per release and $2 million per tank facility, which allowed tank owners to meet the federal government's $1 million financial assurance requirement.

More recently, PCA and the Petrofund fell behind in reviewing leak reports and paying reimbursement claims, so the Legislature set time limits on their activities. PCA now has 60 days to review corrective action plans related to soil contamination and 120 days to review plans relating to ground water contamination. Similarly, the Petroboard must review applications for reimbursement for expenses related to soil cleanup within 60 days (or at the next board meeting) and within 120 days for expenses related to ground water cleanup.

Lawmakers also required the Petroboard to reimburse owners for up to 180 days of interest on financing charges and allowed for some reimbursement before cleanups are fully planned or complete.

## Cost Control Efforts

In 1991, the Legislature asked us for a report on PCA because of general concerns about the agency's growth and its effectiveness in protecting the environment. Our study included a brief review of the petroleum storage tank cleanup and reimbursement programs. Among other things, we found that:

**Problems with the program were noted in earlier reports.**

- **The backlog of leak cases was growing rapidly;**
- **Department of Commerce staff did not scrutinize the reasonableness of cleanup expenditures;**
- **State rules defining reasonable costs were vague; and,**
- **The Petrofund could pay cleanup costs to parties covered by private insurance.**[38]

A 1992 report by PCA and the Department of Commerce also suggested the need for improvements including:

- **Requiring tank owners to keep detailed financial records of cleanup activities;**
- **Creating a data base of industry standards for contractor costs so the Petroboard could assess the reasonableness of reimbursement requests;**
- **Prohibiting kickback agreements between tank owners and contractors; and**
- **Suspending contractors who submit fraudulent or a pattern of unreasonable claims from performing cleanup services.**[39]

As one result of these reports, the Petroboard developed rules to prohibit reimbursement for cleanup costs covered by private insurance.[40] (See Figure 1.5.) In addition, the Legislature in 1991 required the Petroboard to adopt rules designed to ensure that costs submitted for reimbursement are reasonable, including a requirement for competitive bids based on unit costs, when feasible.[41]

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*38* Office of the Legislative Auditor, *Pollution Control Agency* (1991), 156-160.

*39* PCA and Department of Commerce, *1992 Report to the Governor and Legislature*, 25-26.

*40* *Minn. Rules* §2890.0080.

*41* *Minn. Laws* (1991), Ch. 175, Section 2. Emergency rules were adopted on December 16, 1991, and permanent rules became effective on June 15, 1992. *Minn. Rules* §2890.0075.

## Figure 1.5: Legislation to Control Costs Associated with Petrofund Reimbursement

| Year | Nature of Change |
|---|---|
| 1988 | • Made responsible parties liable for the cost of corrective actions taken by PCA. |
| 1989 | • Required PCA to approve of a corrective action plan before reimbursing tank owners (changed in 1991 to allow reimbursement at earlier stages);<br>• Authorized the Petroboard to demand complete or partial return of reimbursements if responsible parties misrepresent or omit relevant facts or fail to complete corrective actions. |
| 1990 | • Excluded the cost of tank removal from reimbursement;<br>• Excluded petroleum refineries and tank facilities with over one million gallon capacity. |
| 1991 | • Required the board to adopt rules, including a requirement for competitive bidding, designed to ensure that reasonable costs are submitted for reimbursement;<br>• Required persons submitting reimbursement applications to submit financial records requested by the board and make relevant information available for inspection and auditing;<br>• Permitted the board to adopt rules governing certification of environmental consultants;<br>• Defined contractor fraud as a crime and authorized the board to take civil action to recover any reimbursements fraudulently obtained plus expenses;<br>• Required the Department of Health to adopt rules to allow the use of flush-threaded polyvinyl chloride casing and screens for leak detection and monitoring wells at petroleum storage tank sites.<br>• Provided that reimbursements cannot be made for costs covered by insurance and subrogated to the board insurance payments that were made. |
| 1992 | • Required consultants and contractors to register with the Petroboard and the use of a registered consultant or contractor as a condition for reimbursement;<br>• Prohibited kickbacks, that is, tank owners accepting or consultants or contractors paying for the non-reimbursable portion of cleanups;<br>• Required tank owners to keep financial records relevant to reimbursement applications for five years;<br>• Required the Petroboard to remove consultants and contractors from registration lists for five years and authorized other sanctions for submitting false or fraudulent bills, failing to perform according to minimal professional standards, participating in a kickback scheme, carelessness, or other problems;<br>• Required owners to notify PCA at least ten days before removing underground tanks;<br>• Required PCA and Commerce to issue a joint report by January 15, 1993, describing the corrective action costs for which reimbursement has been paid and listing reasonable reimbursement charges for consulting, contracting, disposal, and other services.<br>• Required the commissioners of Commerce and Agriculture, in consultation with PCA, Finance, the Attorney General and professional organizations, to report to the Legislative Commission on Water by February 1, 1993, on the reasonableness, cost-effectiveness, and quality of environmental consulting services. |

Source: *Minn. Laws*, (1988) Ch. 683, Section 2; (1989) Ch. 226, Sections 1-3; (1990) Ch. 501, Sections 1-7; (1991) Ch.175, Sections 1-10; (1991) Ch. 294, Sections 1-3; (1992) Ch. 490, Sections 1-12; and (1992) Ch. 544, Section 14.

Over time, the Legislature has taken other steps to control program costs and reduce potential fraud and abuse by tank owners and contractors.[42] For example, in 1989, the Legislature required tank owners to get PCA's prior approval on cleanup plans as a condition for reimbursement. In 1991 the Legislature also forced the Department of Health to change the state's well code slightly to help reduce the cost of leak detection, defined contractor fraud and specified criminal penalties, and authorized the Petroboard to take civil action to recover any reimbursements fraudulently obtained.

In 1992, the Legislature required PCA and the Department of Commerce to submit a report by January 15, 1993, concerning reimbursement for specific types of cleanup services, such as soil excavation, land spreading of soil, and ground water pumping and treatment. The study must define reasonable charges for consulting, contracting, disposal, and other services. The Legislature also required the commissioners of Commerce and Agriculture, in consultation with PCA, Finance, the Attorney General, and professional organizations, to submit a report on February 1, 1993, to the Legislative Commission on Water on the reasonableness, cost-effectiveness, and quality of environmental consulting services.

**Recent cost control measures may help.**

The 1992 Legislature further required the Petroboard to register contractors and required tank owners to use registered contractors if they wish to be reimbursed. It prohibited contractors from accepting kickbacks from tank owners for the non-reimbursable portion of the cleanup and authorized the Petroboard to discipline contractors who submit false or fraudulent bills, fail to perform according to industry standards, or participate in a kickback scheme. For example, the board can issue a civil penalty up to $10,000 or suspend the contractor's license for up to five years.

# SUMMARY

Minnesota's cleanup program is mainly a response to federal regulations requiring that owners clean up soil and ground water contamination associated with petroleum storage tanks. The Petrofund reimbursement program is not required by the federal government but must be approved in order to qualify as a mechanism of financial assurance. Moreover, Minnesota's reimbursement program covers tanks and leaks that the federal government declines to regulate. For example, the Petrofund covers leaks from aboveground, residential, farm, and small, unregistered tanks.

Petrofund revenues come from a one-cent-per-gallon fee on wholesale petroleum. We found that this has not been sufficient to meet the volume and cost of claims for reimbursement from tank owners. One important reason for the shortfall is that the Legislature has significantly expanded the Petrofund reimbursement program without increasing revenues.

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*42* We use the term contractor to refer both to consultants who investigate leaks and prepare corrective action plans and contractors who deliver hands-on cleanup services.

The Legislature has enacted some measures that might reduce costs and recently requested studies to define reasonable prices for cleanup services. However, the Petroboard is just now implementing the new procedures, and their effect cannot be determined.

# Minnesota's Cleanup Program

**CHAPTER 2**

The petroleum storage tank cleanup program, administered by the Pollution Control Agency (PCA), operates separately from the Petrofund reimbursement program. Tank owners are directly responsible for all aspects of their cleanup projects including investigation, corrective actions, and financing. Depending on their willingness to cooperate with state and federal regulations, they may later be reimbursed for up to 90 percent of most costs.

In our 1991 evaluation of PCA, we briefly reviewed the petroleum cleanup program and suggested some improvements.[1] This year, we asked more detailed questions:

- **How has PCA handled the growing number of petroleum leak sites in Minnesota?**
- **What does PCA require of tank owners who encounter petroleum leaks or spills?**
- **Has PCA caused unnecessary expenses to the Petrofund because its cleanup standards are too strict?**

To answer these questions, we interviewed staff at PCA and the U.S. Environmental Protection Agency (EPA), reviewed laws and policies, met with representatives of the petroleum industry, and visited several leak sites. Also, for other states, we obtained comparative data on cleanup program accomplishments and standards for allowable levels of petroleum contamination in soil and water.

## PROGRAM ACHIEVEMENTS

PCA regulates tanks and enforces federal laws which require tank owners to clean up petroleum problems and upgrade old, corrosion-prone storage tanks with new, safer models by 1998. As the owners remove the old tanks, they often discover that the surrounding soil is saturated with petroleum. This may have happened slowly, because of accumulated spills and overfills, piping fail-

1 Office of the Legislative Auditor, *Pollution Control Agency* (1991), 155-162.

ures, and improper installation practices, but the effect is the same as a leak from cracks or holes in the tanks themselves.

The federal government allows each state to pursue its own cleanup program as long as it meets minimum standards and is properly enforced. Minnesota took the initiative and developed a cleanup program even before federal regulations were complete. As a result, PCA has more experience with petroleum cleanups than most other states.

As shown in Table 2.1, Minnesota has begun and completed more underground storage tank cleanups than other Midwestern states. Its achievements are comparable to far more populous states, with far more tanks, such as New York, California, and Texas. For example, federal statistics indicate that Minnesota has initiated 2,905 underground storage tank cleanups and completed 1,272 compared with 1,750 started and 362 finished in Pennsylvania. Other states including Illinois, Wisconsin, and Michigan, have initiated many more cleanups but completed fewer than Minnesota.

**PCA has had much experience and success with cleanups.**

Nationwide, EPA data show that 39 percent of the cleanups begun have now been completed. By comparison, Minnesota has performed slightly better with 44 percent complete. In some cases, we learned, it may never be possible to finish the cleanup projects with existing technology. Other cases may take 20 to 50 years or more.

On the average, consultants have estimated that successful ground water treatment will take nearly six years in Minnesota.[2] About half of the leak sites have required such treatment, but most have been reported only in the past five years since the Petroboard reimbursement program began.

All of the federal officials we contacted indicated that they strongly approve of Minnesota's cleanup program, record of achievement, and management practices. They said that, in their opinion, it would be wise for other states to follow Minnesota's example. Even if cleanup projects cannot be completed quickly, they reasoned that corrective efforts will at least confine the damage, with cleanup costs likely to be reduced accordingly.

# RECENT CHANGES

In 1991, we reported that PCA had a significant, growing backlog of leak cases despite large increases in staff. Since then, the effect of several changes has become apparent. Most notably, the agency has closed more leak sites than before, but the number of staff has remained nearly constant.

2 See Industrial Economics, Inc., *The Impacts of Removing the TCLP Deferral for Petroleum-Contaminated Media at Underground Storage Tank Sites* (Cambridge, Massachusetts: August 5, 1992, draft), 2-13.

## Table 2.1: Petroleum Cleanup Projects Begun and Completed by State

| Rank | | Number Begun | Rank | | Number Completed |
|---|---|---|---|---|---|
| 1 | Ohio | 8,586 | 1 | Tennessee | 5,376 |
| 2 | California | 7,760 | 2 | New York | 4,940 |
| 3 | New York | 7,520 | 3 | California | 3,728 |
| 4 | Maryland | 7,490 | 4 | Maryland | 2,573 |
| 5 | Texas | 7,335 | 5 | Texas | 2,025 |
| 6 | Illinois | 6,582 | 6 | Ohio | 1,960 |
| 7 | Michigan | 6,455 | 7 | Massachusetts | 1,916 |
| 8 | Tennessee | 5,839 | 8 | **MINNESOTA** | **1,272** |
| 9 | Wisconsin | 5,323 | 9 | Missouri | 1,182 |
| 10 | North Carolina | 3,225 | 10 | Kansas | 1,165 |
| 11 | Florida | 2,949 | 11 | Illinois | 1,130 |
| **12** | **MINNESOTA** | **2,905** | 12 | Oregon | 1,040 |
| 13 | New Jersey | 2,822 | 13 | Kentucky | 940 |
| 14 | Massachusetts | 2,751 | 14 | North Carolina | 894 |
| 15 | Virginia | 2,547 | 15 | Michigan | 884 |
| 16 | Kentucky | 2,400 | 16 | Connecticut | 869 |
| 17 | Kansas | 2,383 | 17 | Wisconsin | 774 |
| 18 | Washington | 2,210 | 18 | Maine | 734 |
| 19 | Oregon | 1,998 | 19 | New Jersey | 671 |
| 20 | Pennsylvania | 1,750 | 20 | Florida | 608 |
| 21 | Missouri | 1,686 | 21 | Nevada | 586 |
| 22 | Arizona | 1,537 | 22 | Louisiana | 508 |
| 23 | Colorado | 1,508 | 23 | Washington | 498 |
| 24 | Indiana | 1,387 | 24 | Arizona | 496 |
| 25 | Georgia | 1,324 | 25 | Iowa | 473 |
| 26 | Connecticut | 1,237 | 26 | Colorado | 470 |
| 27 | Utah | 1,066 | 27 | Alabama | 436 |
| 28 | South Dakota | 971 | 28 | Delaware | 420 |
| 29 | Maine | 877 | 29 | South Dakota | 413 |
| 30 | Vermont | 876 | 30 | Vermont | 403 |
| 31 | Alabama | 867 | 31 | Oklahoma | 388 |
| 32 | Delaware | 858 | 32 | Utah | 381 |
| 33 | Iowa | 813 | 33 | Virginia | 363 |
| 34 | Nevada | 800 | 34 | Pennsylvania | 362 |
| 35 | Montana | 779 | 35 | New Mexico | 336 |
| 36 | Louisiana | 629 | 36 | Wyoming | 331 |
| 37 | New Mexico | 609 | 37 | Georgia | 307 |
| 38 | New Hampshire | 522 | 38 | Montana | 292 |
| 39 | Wyoming | 469 | 39 | Indiana | 243 |
| 40 | West Virginia | 438 | 40 | Idaho | 240 |
| 41 | Idaho | 408 | 41 | North Dakota | 232 |
| 42 | Oklahoma | 392 | 42 | New Hampshire | 216 |
| 43 | Alaska | 392 | 43 | Mississippi | 167 |
| 44 | North Dakota | 389 | 44 | Rhode Island | 163 |
| 45 | Mississippi | 359 | 45 | District of Columbia | 157 |
| 46 | South Carolina | 328 | 46 | Alaska | 139 |
| 47 | Rhode Island | 320 | 47 | Nebraska | 117 |
| 48 | Nebraska | 257 | 48 | West Virginia | 48 |
| 49 | District of Columbia | 239 | 49 | South Carolina | 39 |
| 50 | Arkansas | 201 | 50 | Arkansas | 10 |
| 51 | Hawaii | 197 | 51 | Hawaii | 2 |
| Total | | 113,565 | | | 43,917 |

Source: U.S. Environmental Protection Agency through June 1992, including only federally regulated tanks, mainly underground.

As shown in Table 2.2, the agency closed only 13 leak sites in 1987 and 45 in 1988, but opened a total of 650 new cases. Between 1989 and 1991, the number of cleaned-up sites grew steadily up to 660 while 1,103 or more new projects began each year. Most recently, during the first half of 1992, the number of completed sites came within range of the number of new leak sites.[3]

## Table 2.2: Leak Sites Reported and Closed by Year, 1987 through mid-1992

| Calendar Year | Reported | Completed |
|---|---|---|
| 1987 | 204 | 13 |
| 1988 | 446 | 45 |
| 1989 | 1,209 | 166 |
| 1990 | 1,516 | 480 |
| 1991 | 1,103 | 660 |
| mid-1992 | 426 | 342 |
| Total | 4,904 | 1,706 |

Source: Pollution Control Agency, as of September 10, 1992.

Overall, including aboveground and underground tank cleanups, PCA has overseen successful conclusions to 35 percent of all leak sites since 1987.[4] Although the majority of leak sites remain to be closed, we think this represents good performance, reflecting the agency's increased experience and desire to improve.

**PCA has helped to accelerate cleanups.**

According to a recent evaluation by consultants to EPA, PCA improved its performance without further staff increases mainly by streamlining its response to leak reports, clarifying instructions for contractors who perform cleanup operations, and simplifying procedures for permits needed in soil and water treatment.[5] In addition, EPA's consultants noted that PCA's performance has been boosted by the Legislature's expansion of the Petrofund reimbursement program and a 1991 law which limited the amount of time staff could spend reviewing leak site reports.

Table 2.3 shows that PCA has significantly reduced delays at each of five major points of contact with tank owners. One way the agency improved its performance was by assigning managers to provide immediate advice when tank owners initially report leaks by telephone. In contrast, the agency previously took one or two months simply to enter the initial reports into a computer and send a standard letter. PCA also developed a package of standardized guid-

3 We counted only those sites which were completely closed by PCA. The agency typically includes conditionally closed sites in its count.

4 Federal statistics in Table 2.1 that report Minnesota has completed 44 percent of its cleanups are limited to federally regulated underground storage tanks.

5 Environomics, *Analysis of the Benefits and Costs of Rapid Response for LUST (Leaking Underground Storage Tank) Corrective Actions* (Bethesda, Maryland: May 15, 1992, draft).

## Table 2.3: Pollution Control Agency's Response Time, 1988-91

| Stage | Year | Sample Size | Median Days |
|---|---|---|---|
| Initial Leak Report to Issuance of Standard Letter | 1988 | 117 | 43 |
| | 1989 | 528 | 44 |
| | 1990 | 1,031 | 13 |
| | 1991 | 200 | 6 |
| Initial Leak Report to Soil Treatment | 1988 | 16 | 313 |
| | 1989 | 23 | 180 |
| | 1990 | 31 | 52 |
| | 1991 | 1 | [a] |
| Initial Leak Report to Ground Water Treatment | 1988 | 27 | 321 |
| | 1989 | 25 | 153 |
| | 1990 | 16 | 96 |
| | 1991 | 2 | [a] |
| Initial Leak Report to Approval of Corrective Action Design | 1988 | 121 | 546 |
| | 1989 | 226 | 408 |
| | 1990 | 169 | 197 |
| | 1991 | 3 | [a] |
| Initial Leak Report to Completed Project | 1988 | 169 | 534 |
| | 1989 | 515 | 338 |
| | 1990 | 392 | 205 |
| | 1991 | 23 | [a] |

Source: Environomics, *Analysis of the Benefits and Costs of Rapid Response for LUST (Leaking Underground Storage Tank) Corrective Actions*, May 15, 1992.

[a]Insufficient sample size to estimate.

ance documents for contractors. Now, the agency holds annual information sessions instead of attempting to closely oversee each contractor's plans and performance.

The consultants compared Minnesota's performance with several other states in the same region (EPA's Region V), and the results were favorable. Compared with Wisconsin, Illinois, Michigan, Indiana, and Ohio, Minnesota had the greatest percentage of completed cleanups and the most active reporting of new leaks. The consultants suggested that the Petrofund's generous financial incentives have elicited cooperation from owners while, elsewhere in the region, more limited reimbursement may inhibit prompt reporting of leaks. In Chapter 3, we describe the other states' reimbursement programs in detail.

# BASIC STEPS

*Minn. Stat.* §115.061 requires every citizen to notify the Pollution Control Agency immediately if a leak or spill of any kind might pollute state waters. This is consistent with the Ground Water Protection Act of 1989, which states:

"It is the goal of the state that ground water be maintained in its natural condition, free from any degradation caused by human activities."[6]

Regarding petroleum leaks and spills, PCA tells tank owners that they must take these steps to comply with state and federal laws and retain eligibility for the maximum allowable Petrofund reimbursement of cleanup costs:

1. Report the leak or suspected leak as soon as possible by calling a 24-hour hotline.

2. Take immediate action to prevent fire, explosion, further leakage of petroleum into soil or water, and other immediate dangers, and submit a report.

3. Hire an expert to investigate the site and submit a report, including site history and tank information, preliminary definition of the area and impact of contamination, effects on ground and surface water and soil, migration routes, and estimates of the volume and type of petroleum which leaked.

4. Submit an overall design for corrective actions and obtain the Pollution Control Agency's approval before installing the proposed system or method.

5. Implement the corrective action design, which may call for recovery of petroleum, soil excavation, treatment and disposal of contaminated soil and water, vapor collection, surface water protection devices, restoration of utility and sewer lines, and other tasks.

6. Send periodic follow-up reports to document progress, demonstrate cooperation, and determine eligibility for Petrofund reimbursement.[7]

**Tank owners must comply with regulations to get maximum payment from the Petrofund.**

PCA staff review the required reports and designs for corrective actions for each leak site. They may approve the reports and plans as submitted or request further tests before making a decision. Also, they may disagree with proposed plans and suggest alternatives.

Later, the staff write a report on each site for the Petroboard. PCA site reports strongly influence the level of reimbursement which will be paid. The site reports determine whether applicants are eligible and corrective actions are appropriate for Petrofund reimbursement, and they indicate the extent to which applicants complied with laws and regulations on petroleum storage tanks (for example, registration, prompt notification of leaks, and adequacy of leak detection devices). Finally, the reports recommend reimbursement reductions when tank owners fail to cooperate or comply with the agency's decisions, particularly when leaks cause serious environmental damage or result from owners' carelessness.

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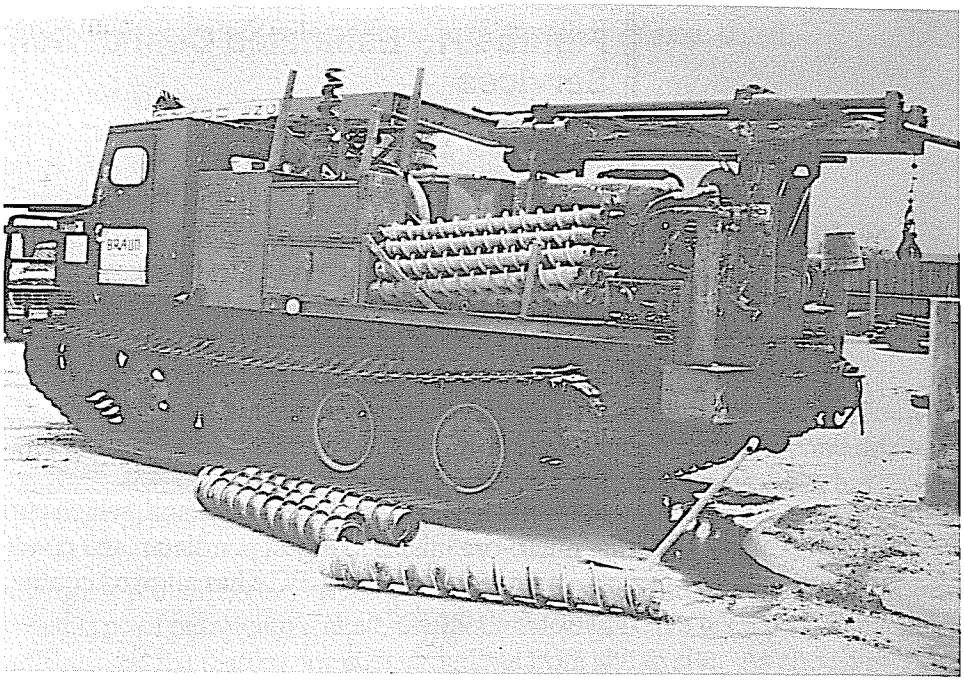
6 *Minn. Stat.* §103H.001.

7 See Pollution Control Agency, *Six Steps to a Petroleum Tank Release Cleanup* (May 1992).



**Large drill rig for soil borings and monitoring and treatment wells.**

# TREATMENT OPTIONS

PCA stressed to us that it is difficult to determine in advance which of many potential solutions will be most effective and economical in the long run. Almost all leak sites benefit from soil excavation, but this is not always feasible or sufficient to resolve the problem. Excavation possibilities are sometimes limited by nearby homes and businesses. Also, it is impractical and costly to remove great quantities of petroleum-contaminated soil.

**Most cleanups require soil treatment.**

Each cubic yard of soil weighs about 1.4 tons, and a typical dump truck can carry 8 to 10 cubic yards. We found that an average of 393 cubic yards of soil, or at least 40 truckloads, have been excavated per leak site where the Petrofund has provided some reimbursement.[8] Since costs multiply with each unit of soil to be excavated, hauled, and treated, PCA recently required tank owners to obtain its written approval before excavating more than 400 cubic yards.

Price ranges for typical soil treatment services are shown in Figure 2.1. Detailed data on unit costs for particular cleanup services are forthcoming in a report mandated by the 1992 Legislature.[9] However, we have some reservations about the study because it was conducted by a cleanup contractor with some data entry services donated by a petroleum industry association.

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*8* In total, we estimate that the Petrofund so far has contributed toward the excavation of nearly one million tons of soil.

*9* See *Minn. Laws* (1992), Ch. 490, Section 12.

## Figure 2.1: Estimated Cost of Soil Treatment Services

| | Estimated Price Per Cubic Yard |
|---|---|
| Excavation | $15-20 |
| Hauling | 10-15 |
| Landfarming | 5-40 |
| Thermal Treatment | 25-70 |
| Replacement Soil | 5-10 |

Source: Department of Commerce.

Instead of or in addition to soil excavation, owners may sink air vents into the contaminated area. These aerate the soil, which encourages naturally-occurring micro-organisms to digest petroleum and convert it to harmless byproducts. Also, in a few cases, PCA has allowed contractors to add extra micro-organisms to the soil.

Table 2.4 describes the treatments which have been used at leak sites where the Petrofund has provided some reimbursement. As shown, landfarming and thermal treatment are most common. At about 200 agency-approved "landfarms" throughout the state, micro-organisms degrade petroleum in contaminated soil which is spread over a large area and periodically tilled. At 13 thermal treatment facilities (essentially incinerators) the petroleum is burned

## Table 2.4: Types of Soil and Water Treatments Reimbursed by the Petrofund through mid-1992

| | Sites | |
|---|---|---|
| | Number | Percent |
| SOIL TREATMENTS | | |
| Landfarm | 656 | 35% |
| Thermal | 508 | 27 |
| Vents | 107 | 6 |
| Thin spread | 74 | 4 |
| Landfill | 39 | 2 |
| Other | 92 | 5 |
| WATER TREATMENTS | | |
| Monitor | 348 | 19% |
| Pump and treat | 179 | 10 |
| Recovery trench | 32 | 2 |
| Vacuum enhanced recovery | 11 | 1 |
| Other | 9 | <1 |
| | 2,055[a] | 111%[a] |

Sources: Pollution Control Agency and Department of Commerce, based on 1,853 leak sites.

[a]Some sites involved more than one type of treatment.

out or "roasted" from the soil, which becomes sterile. In Figure 2.2, we explain these and other common treatment methods in more detail.

# TYPES OF LEAK SITES

When tank owners first report a leak, they have little idea of its full extent or probable cost. They usually know what type of petroleum leaked, and they hope that contamination is limited to the soil. PCA provides the owners with a list of contractors who can help them diagnose and treat the problem.

In general, leak sites can be categorized into two groups. The less difficult and less expensive sites are those where the soil alone has been contaminated. The more difficult, more expensive sites are those where petroleum has polluted the soil and migrated into water.

We analyzed all 1,853 leak sites reimbursed by the Petroboard and determined what type of petroleum leaked, the methods which have been used in cleanup efforts, and the reasons for cost variations from site to site. As shown in Table 2.5, gasoline has been present at more than half (57 percent) of the sites. About a third have been contaminated with fuel oil and 14 percent with diesel

## Figure 2.2: Glossary of Treatment Terms

| | Explanation |
|---|---|
| **SOIL TREATMENTS** | |
| Landfarm | Contaminated soil is spread four to six inches deep on fertile land and tilled to encourage natural degradation by micro-organisms. Some petroleum is volatilized into the air at the same time. |
| Thermal | Contaminated soil is roasted in kilns until the petroleum is spent or released. |
| Vents | Slotted pipes are installed in contaminated soil, and blowers pull out petroleum vapors. Air introduced into the soil helps micro-organisms to degrade some petroleum. |
| Thin spread | Similar to landfarming, but allowed only for small amounts of lightly contaminated soil. Tank owners can distribute up to 10 cubic yards of contaminated soil on their own property. |
| **WATER TREATMENTS** | |
| Monitor | Install wells to allow for periodic samples of ground water. Samples must be scientifically analyzed. |
| Pump and treat | Water is pumped out of the ground and aerated so that contamination is released into the air through carbon filters if necessary to prevent air pollution. The water is discharged to a sewer or surface water. |
| Recovery trench | Contaminated water flows to a trench before being pumped and treated. |
| Vacuum enhanced recovery | Similar to pump and treat, but water flow is increased by applying vacuum pressure. Also, this method provides some venting for contaminated soil near the surface of ground water. |

Source: Pollution Control Agency.

## Table 2.5: Contaminants at Leak Sites Reimbursed by the Petrofund through mid-1992

| | Sites | |
|---|---|---|
| | Number | Percent |
| Gasoline | 1,058 | 57% |
| Fuel oil | 602 | 32 |
| Diesel fuel | 268 | 14 |
| Waste oil | 125 | 7 |
| Other[a] | 40 | 2 |
| Total | 2,093 | 112%[b] |

Sources: Pollution Control Agency and Department of Commerce, based on 1,853 leak sites.

[a]Includes motor oil, aviation gas, hydraulic fluid, mineral spirits, and transmission fluid.

[b]Some sites involved more than one contaminant.

fuel. Other contaminants have included waste oil, motor oil, aviation gas, hydraulic fluid, mineral spirits, and transmission fluid. Sometimes, there was more than one contaminant.

**Some cleanups require soil treatment only but others need soil and water treatment.**

Since many of the cleanup projects reimbursed by the Petrofund remain incomplete, we could not classify all of them into the two main categories. During our study period, neither soil nor water treatment was indicated at 21 percent of the sites and, at 10 percent, only the water had received treatment.

Table 2.6 shows the Petrofund's expenditures by type of site and the number of sites in each of four categories. As shown, slightly more than half of the sites involved soil treatment only, but these have accounted for less than half (43 percent) of Petrofund expenditures. In contrast, the water treatment sites were disproportionately expensive. So far, 26 percent of all the sites involved water only or both soil and water, but they accounted for 46 percent of the Petrofund's costs.

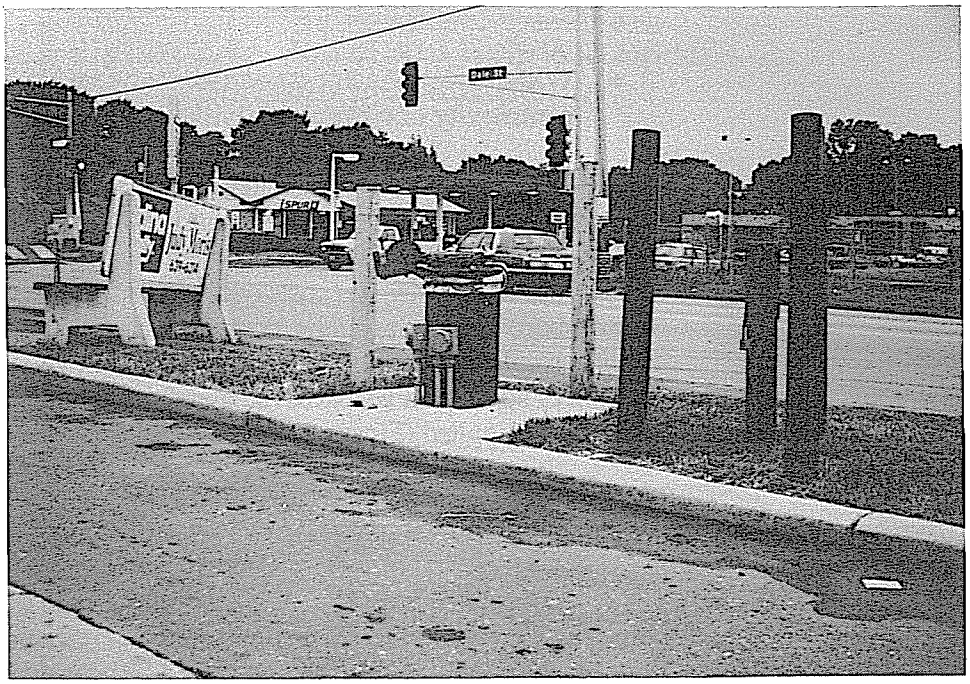
## Table 2.6: Types of Sites Reimbursed by the Petrofund through mid-1992

| | Sites | | Payment | |
|---|---|---|---|---|
| | Number | Percent | Dollars | Percent |
| Soil only | 974 | 53% | $31,410,809 | 43% |
| Water only | 176 | 9 | 10,291,707 | 14 |
| Soil and water | 316 | 17 | 23,259,925 | 32 |
| Unclear | 387 | 21 | 7,386,451 | 10 |
| | 1,853 | 100% | $72,348,892[a] | 99%[b] |

Sources: Department of Commerce and Pollution Control Agency.

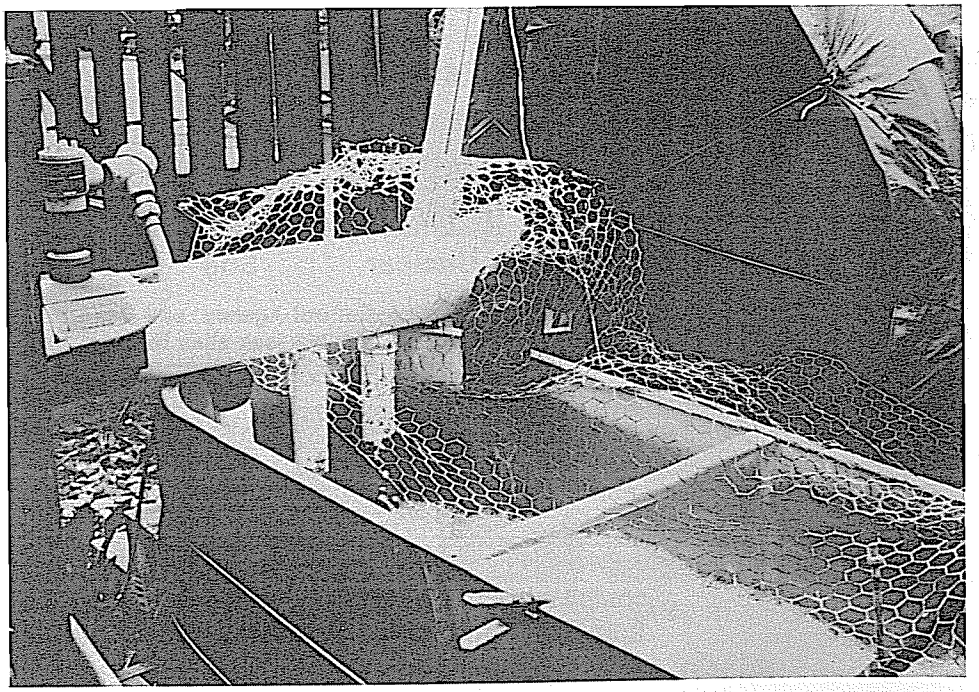
[a]Total is slightly different from Table 1.4 which was based on financial statements alone.

[b]Figures do not total 100 due to rounding error.



Monitoring well encircled by taller bumper posts at right with recovery well for water treatment at center.

**The public may not notice cleanup equipment.**



After contaminated water is pumped from the ground, some petroleum is decanted in tank at right, and the remainder is aerated at center before release to the sanitary sewer system.

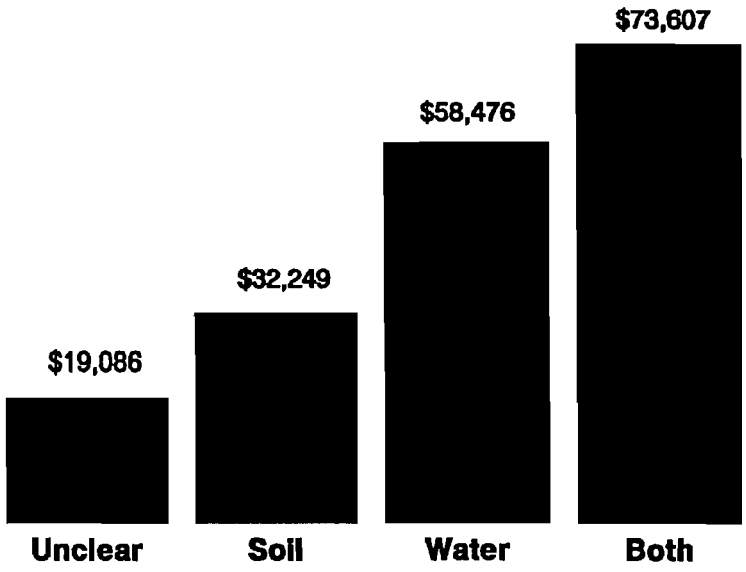
In general, we found that:

- **Wide variations in cost can logically be explained by the extent and complexity of cleanup activities.**

Overall, the Petrofund has paid an average of $39,044 per leak site. However, as shown in Figure 2.3, costs were nearly $74,000 when soil and water both were treated and less than $20,000 when treatment was unclear. Similarly, Figure 2.4 shows that cleanup costs exceeded $100,000 when contractors installed five or more monitoring wells, compared with $26,432 when there were none. Similar results appeared when we analyzed cost variations in relation to the amount of soil which was excavated and the number of treatment methods which were applied (Figure 2.5).

**Costs vary with the type and size of the cleanup job.**

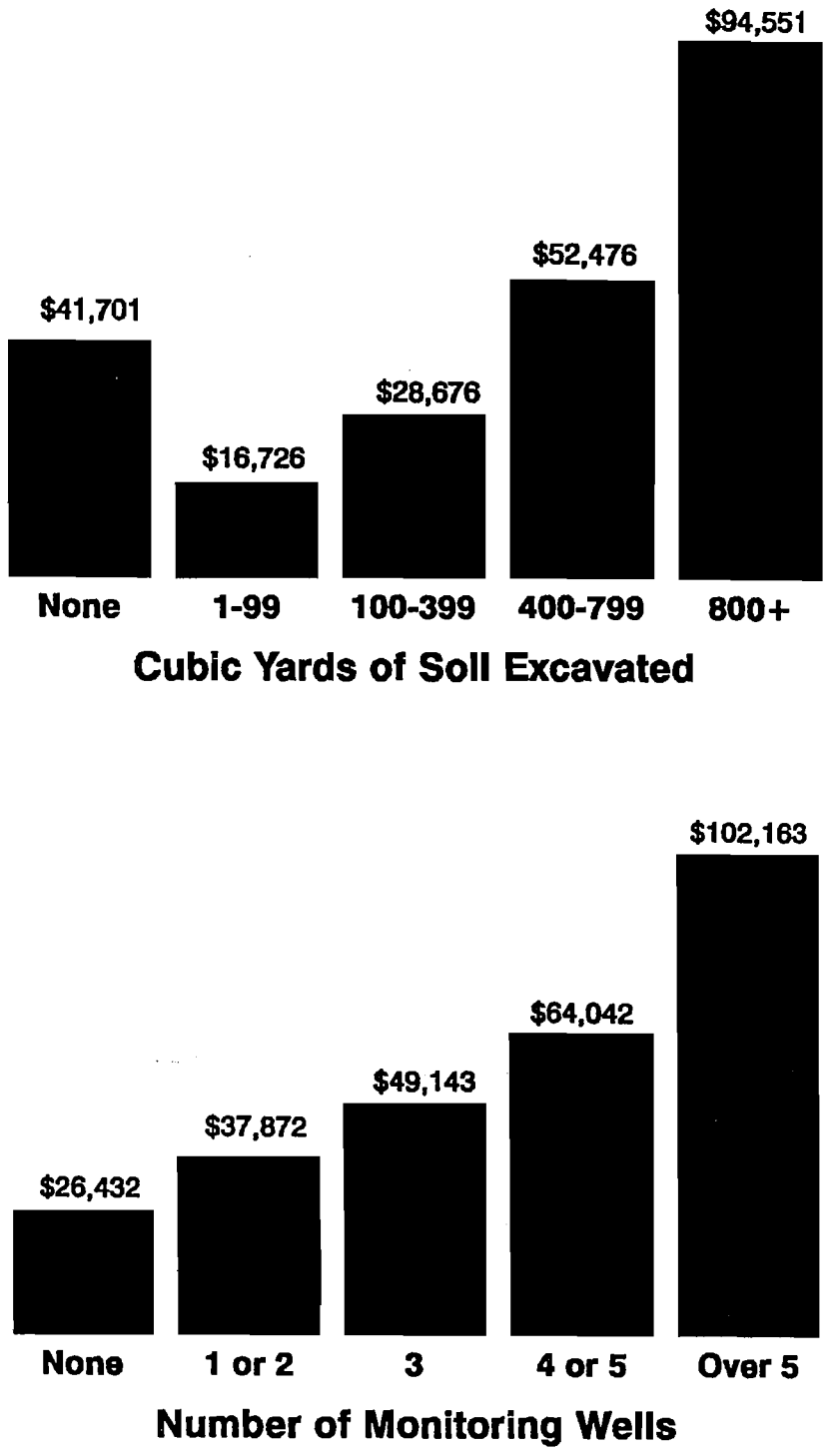
**Figure 2.3: Petrofund Reimbursement by Type of Site**




**Sources: Pollution Control Agency and Department of Commerce, based on 1,853 leak sites through June 1992.**

We also found that cleanup costs were about $7,000 (17 percent) above average in the seven-county Twin Cities metropolitan area compared with other regions of the state. All other regions were below the statewide average by $4,400 to $6,900. Three factors help to explain this difference: (1) the cost of services is generally higher in the Twin Cities area; (2) it is more difficult to completely excavate contaminated soil in urban areas; and (3) soil excavated from Twin Cities leak sites must be hauled farther to landfarms or incinerated at higher cost.

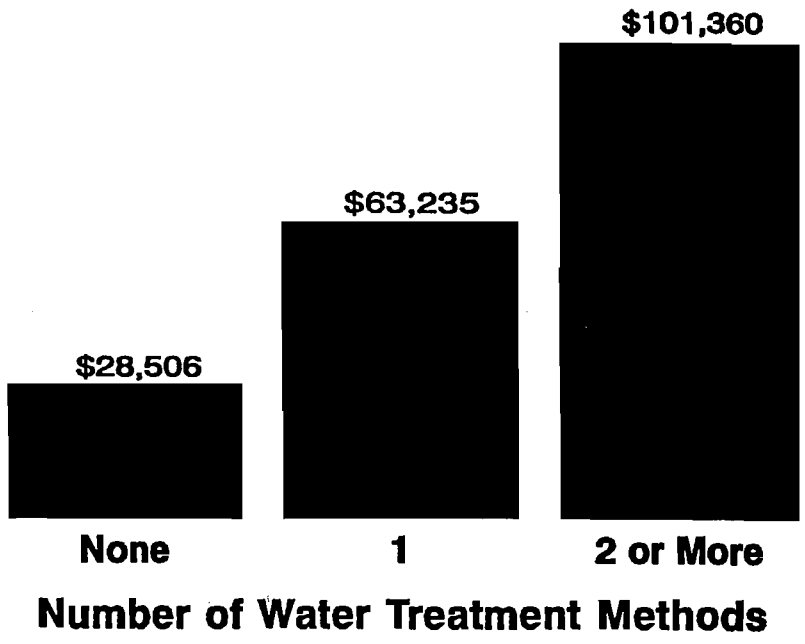
**Figure 2.4: Petrofund Reimbursement by Extent of Excavation and Monitoring**

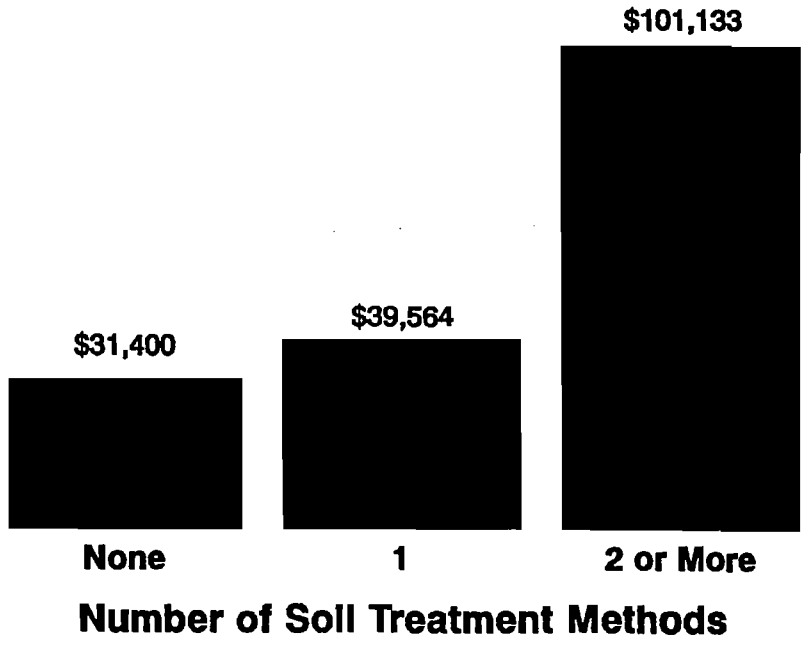



Sources: Pollution Control Agency and Department of Commerce, based on 1,853 leak sites through June 1992.

**The more cleanup work that has to be done, the higher the price.**

**Figure 2.5: Petrofund Reimbursement by Number of Treatment Methods**




Sources: Pollution Control Agency and Department of Commerce, based on 1,853 leak sites through June 1992.

# PETROFUND-FINANCED CLEANUP PROJECTS

As we have shown, cleanup projects can cost one hundred thousand dollars or more. Although the Petrofund may ultimately pay back 90 percent of the cost, some tank owners cannot obtain financing and cannot afford to pay their 10 percent share. In other cases, the responsible party cannot be clearly identified, refuses to accept responsibility, or is unwilling to pay anything.

When the leak is causing an emergency, PCA sometimes takes immediate responsibility and proceeds with cleanup projects. In these cases, the agency uses money which is budgeted routinely from the Petrofund but regularly applies to the Petroboard for additional funds. Sometimes, PCA is successful in convincing tank owners later to repay what they owe.

In December 1992, PCA was actively managing cleanups at 32 sites with money from the Petrofund. It had recovered about $193,000 from tank owners at a total of 16 sites and was pursuing other cases. For fiscal year 1993, the agency has projected expenses of about $2 million for professional and technical aspects of the cleanup projects. Staff and other costs are projected to be about $1 million more.

**PCA manages cleanups at some of the state's worst leak sites.**

Generally speaking, PCA-managed sites are large and expensive. For example, in the Washington County communities of Lakeland and Lakeland Shores (population 2,300), residential wells became so contaminated that about 400 residents had to rely on bottled water for five years, until a city water system opened in 1991. PCA attributed much of the problem to a single truck stop with leaking tanks and an improperly constructed well. Excluding the new water system, this cleanup is still in progress and ultimately could cost more than $1 million.

Another major PCA-managed cleanup project is in Adrian, a community of about 1,500 in Nobles County. According to PCA, a cracked weld in one storage tank at a filling station contaminated an aquifer and city wells. As a result, the community built new wells about a mile away. When complete, the cleanup may cost $700,000.

Other petroleum leaks have put fewer citizens at risk, but they have faced the immediate dangers of fire and explosions. In Minneapolis during the late 1970s, gasoline exploded in a leaking underground tank, and the concrete covering flew up and killed a truck driver and girl standing nearby. About the same time, according to the Pollution Control Agency, a Glendorado service station owner was killed while trying to pump out gasoline which had seeped into the station's basement from a leaking tank, and his wife was hospitalized with severe burns. Other citizens have been evacuated from their homes for up to several days. In Karlstad, agency records show that a house fire in 1988 ignited gasoline which had entered the sanitary sewer system from a leaking

underground tank, and the vapors exploded with such force that water violently erupted from toilets and sinks in several homes at once.

More often, citizens have slowly become aware of odd tastes or smells from their drinking water, and they have learned later that these came from leaking petroleum storage tanks. Besides the inconvenience of changing to bottled water and being connected to a new water supply, they have suffered increased chances of cancer by imbibing such water. A customer and the owners of a diner in Eveleth have charged that they are now suffering health ailments from drinking petroleum-contaminated water which has been traced to a tank leak in 1986.[10] However, the EPA has studied the risks generally associated with tank leaks and found them to be relatively low by comparison with air pollution, hazardous waste sites, and other environmental problems.[11] The study not only considered health risks but also ecological effects and the impact on public welfare.

**Leak sites can be physically dangerous but rank low relative to other environmental problems.**

# SOIL AND WATER CLEANUP STANDARDS

The federal government has no specific standards to determine when contamination levels are high enough to require cleanup. Laboratory and field tests are quite imprecise, and there is no objective scientific standard to indicate what level of contamination is acceptable for public health. EPA considered adopting national standards but decided that each state should have its own, partly depending on the value it places on clean water.

We reviewed published comparisons of soil and water cleanup standards in the 50 states and found that:

- **State cleanup standards vary, but Minnesota's standards are neither the most stringent nor the most lenient.**

A recent listing of soil standards shows that the 50 states test for a variety of petroleum contaminants, but the most frequently used criterion for cleanup is the level of total petroleum hydrocarbons (TPH). Other states have undefined, site-specific cleanup standards, and several rely on a matrix of factors such as soil type and proximity of leaks to drinking water sources. Of the 21 states with a specific standard for total petroleum hydrocarbons, 10 use 100 parts per million TPH, four use 50 parts per million, and seven have a more restrictive standard.[12]

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*10* Associated Press, "Study Blames Gasoline Leaks for Tainted Water at Eveleth Diner," *Star Tribune*, Minneapolis, November 18, 1992, 8D.

*11* U.S. Environmental Protection Agency, *Unfinished Business: A Comparative Assessment on Environmental Problems* (Washington: February 1987).

*12* Tamlyn Oliver and Paul Kostecki, "State-by-State Summary of Cleanup Standards," *Soils* (December 1992), 14-24.

Minnesota uses TPH as a standard to determine when soil is contaminated with petroleum, but the Pollution Control Agency allows two different levels depending on soil type. Since June 1992, contamination levels up to 50 parts per million of TPH have been allowed in sand, compared with 100 parts per million in clay, which holds contamination more tightly. Previously, the agency used a single laboratory standard of 50 parts per million.

Agency officials told us that they relaxed the TPH contamination standard for three main reasons: (1) a recognition based on several years' experience that the previous standard was overly conservative; (2) the high cost of cleanups; and (3) industry pressure to change. Depending on the results of soil tests under the new standards, they may restrict or further relax the current standard within the next few years.

Concerning petroleum in water, experts agree that long-term exposure to benzene (a key constituent of petroleum) causes cancer, while other constituents are dangerous if not carcinogenic. However, the precise effect of specific petroleum constituents and different contamination levels is hard to measure and subject to scientific debate. Ingestion tests are performed on laboratory animals, not people. Also, test results vary from study to study because of differences in equipment and methods.

**PCA's soil and water standards are moderate compared with other states.**

In general, when contamination reaches high levels, humans can taste and smell petroleum in their water, and they will refuse to drink it. According to a report by the General Accounting Office, people can taste even one part per million of gasoline.[13] Similarly, EPA has testified to Congress that one gallon of gas leaking per day into a ground water source can pollute the water for a community of 50,000.

Most states' cleanup programs have adopted ground water cleanup standards which allow only a small, imperceptible amount of benzene. In Minnesota's case, the Pollution Control Agency has chosen to enforce the same standard of water purity for drinking water aquifers as the Department of Health requires for drinking water in residential wells. Currently, this is twice the maximum level which the EPA allows for municipal drinking water.

The Health Department's standard allows for ten parts per billion of benzene in private wells. Based on laboratory tests, this represents a risk of one additional person in 100,000 developing cancer over a lifetime of 70 years.[14]

We noted that the Department of Health has increased its benzene standard over time as additional information from the EPA has become available, and PCA has followed suit. For example, the Department of Health increased the

*13* U.S. General Accounting Office, *Superfund: Insuring Underground Petroleum Tanks* (Washington, 1988), 8.

*14* State limits are based on health risk data from the EPA's Carcinogen Assessment Group, assuming that people drink two liters of contaminated water daily.

recommended allowable limit for benzene from 1.2 parts per billion in 1986, to 7 parts per billion in 1988, and to 10 parts per billion in 1991.[15]

By comparison with 18 other states, the Department of Health has found that its water contamination standard is among the most liberal.[16] In a phone survey, the department learned that 16 of the states set standards which would allow one additional case of cancer in one million rather than 100,000. Among these were Iowa, Michigan, California, New Jersey, Vermont, and Tennessee. Of those surveyed, only Kansas and to some extent Wisconsin shared Minnesota's more relaxed approach.

# SUMMARY

In general, we found that Minnesota has made significant progress in cleaning up contamination from petroleum storage tank leaks. Minnesota has begun and completed more cleanups than many other states, and EPA regards Minnesota's cleanup program as a model. We found that PCA has considerably improved its administration of cleanups and significantly reduced the amount of time between the discovery of a leak and cleanup efforts. In our opinion, the agency has also shown flexibility in encouraging tank owners to use a variety of treatment technologies, and it showed sensitivity by recently relaxing its standards for soil cleanups. In the future, we encourage the agency to continue to explore more effective, economical methods to detect and clean up leaks.

We also found that Minnesota's soil and ground water cleanup standards are not excessive compared with other states. In our opinion, cleanup standards rest appropriately on professional judgment, technical considerations, and experience, combined with the value a state's policy makers place on water quality and health.

As we discussed, the Pollution Control Agency also plays a role in reimbursement, as the Petroboard uses PCA's reports in determining specific payment to tank owners. In Chapter 3, we examine how the board uses information from the agency and other sources to pay claims against the Petrofund.

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*15* See Minnesota Department of Health, *Recommended Allowable Limits for Drinking Water Contaminants* (Minneapolis, 1986, 1988, and 1991).

*16* Department of Health, *Tolerable Risk Limits of States* (1991).

# The Petrofund Reimbursement Program

**CHAPTER 3**

In Chapter 1, we reviewed the origins of the Petrofund reimbursement program, which the Legislature authorized in 1987. In this chapter, we evaluate the way in which the Department of Commerce and Petroboard have implemented the legislation and paid claims against the Petrofund. We asked:

- **How does Minnesota's reimbursement program compare with others? Is it more or less generous?**

- **How well does the department run the reimbursement program? How does the Petroboard make specific reimbursement decisions?**

To answer these questions, we interviewed staff at the Department of Commerce, Pollution Control Agency, and Attorney General's Office, reviewed claims, and attended several meetings of the Petroboard. We analyzed Petrofund payment records and the past fiscal year's board minutes, which show when and why reimbursements have varied from the usual 90 percent. In addition, we spoke with program administrators at the Environmental Protection Agency and in other states.

## COMPARISONS WITH OTHER STATES

**Minnesota's Petrofund is comparatively generous.**

We reviewed national data on other states' reimbursement programs and interviewed fund administrators from eight states in Minnesota's region.[1] Our survey revealed similarities and differences between Minnesota's program and other states. In general:

- **Minnesota's Petrofund reimbursement program is more inclusive and more generous than other states.**

Table 3.1 reviews the scope of the reimbursement programs in Minnesota and the eight other states. All nine states' funds cover leaks from gasoline and diesel fuel, and all but South Dakota cover used oil. However, Minnesota is one

*1* We conducted the interviews by telephone in June and July 1992. The eight states include those in EPA's Region V plus the surrounding states of Iowa, North Dakota, and South Dakota. One of the states, Indiana, had not yet accepted any reimbursement claims.

## Table 3.1: Scope of Reimbursement Programs

| | Tanks Covered | | | |
|---|---|---|---|---|
| State | Gas and Diesel | Heating Oil | Used Oil | Aboveground |
| Illinois | Yes | Yes | Yes | No |
| Indiana | Yes | No | Yes | No |
| Iowa | Yes | No | Yes | No |
| Michigan | Yes | No | Yes | No |
| **MINNESOTA** | **Yes** | **Yes** | **Yes** | **Yes** |
| North Dakota | Yes | No | Yes | Yes |
| Ohio | Yes | No | Yes | No |
| South Dakota | Yes | Yes | No | Yes |
| Wisconsin | Yes | No | Yes | Yes[a] |

[a]Wisconsin provides less reimbursement (maximum of $195,000) for aboveground tank cleanups.

of only three states to reimburse for leaks from heating oil tanks and one of four states to reimburse for cleanups from aboveground tanks.

**Tank owners pay a deductible of at least $10,000 in most other states.**

In addition to covering more types of tanks and petroleum products, Minnesota is one of the few states without any deductible.[2] In other words, tank owners can and do submit claims for any amount, no matter how small. As shown in Table 3.2, tank owners in most states must pay at least $10,000 before they are eligible for reimbursement from state funds.

Minnesota does require almost all tank owners to pay ten percent of their cleanup costs (that is, a ten percent co-payment), but some other states have co-payments in addition to deductibles.

## Table 3.2: Maximum Amount Deducted from Eligible Cleanup Expenses

| Amount | Number of States |
|---|---|
| $0 | 3 |
| $5,000 | 5 |
| $10,000 | 11 |
| $15-25,000 | 12 |
| $30-50,000 | 5 |
| $60-75,000 | 3 |
| $100,000 | 2 |
| $200,000 | 1 |

Note: Amounts assume full compliance with regulations. Information is missing for some states, and other states have no reimbursement program or deductible.

Source: U.S. Environmental Protection Agency, *Summary of State Tank Trust Fund Laws* (September 1991).

2 A deductible is an initial, specified expense that is not reimbursed. For example, if the deductible were $10,000, a fund would pay only the portion of the cleanup exceeding $10,000.

Table 3.3 shows how much Minnesota and eight other states would reimburse for $20,000, $50,000, and $100,000 claims, after subtracting co-payments and deductibles. Assuming that tank owners are cooperative and comply with applicable regulations, Minnesota's Petrofund would pay $18,000 for a $20,000 claim, more than the other states in our survey. For a $50,000 claim, Minnesota would pay $45,000, second only to Wisconsin. Wisconsin also would reimburse the most for a $100,000 claim, and Minnesota would be one of five states to pay $90,000. For claims greater than $100,000, Minnesota would pay a smaller percentage than Wisconsin and four states with a $10,000 deductible but no co-payment (Illinois, Michigan, Ohio, and South Dakota).[3]

## Table 3.3: Comparison of Reimbursement after Deductibles and Co-Payments

| | Amount of Claim | | |
|---|---|---|---|
| State | $20,000 | $50,000 | $100,000 |
| Illinois | $10,000 | $40,000 | $90,000 |
| Indiana | 0 | 15,000 | 65,000 |
| Iowa | 15,000 | 41,000 | 78,600 |
| Michigan | 10,000 | 40,000 | 90,000 |
| **MINNESOTA** | **18,000** | **45,000** | **90,000** |
| North Dakota | 13,500 | 40,500 | 85,500 |
| Ohio | 10,000 | 40,000 | 90,000 |
| South Dakota | 10,000 | 40,000 | 90,000 |
| Wisconsin | 16,625 | 45,125 | 92,625 |

Note: Assumes full compliance with state and federal regulations. Ohio reimburses less for those owning more than six tanks. Iowa pays 100 percent of initial assessment costs.

When tank owners do not comply with regulations or cooperate with cleanups, Minnesota generally reduces reimbursement by some additional percentage. In contrast, most of our comparison states would make these tank owners ineligible for reimbursement. As discussed in Chapter 1, Minnesota's program was originally designed to deny reimbursement for noncompliance and non-cooperation, but the 1989 Legislature dropped those provisions in favor of reimbursement reductions.[4]

**Minnesota is not alone in its financial difficulties with its Petrofund.**

Concerning fund revenues, we found that Minnesota is not the only state facing financial difficulty. Illinois, South Dakota, and Wisconsin also have payment backlogs, and Michigan will stop accepting claims on February 8, 1993, unless its Legislature authorizes increased revenue. As shown in Table 3.4, five of the nine states in our survey, including Minnesota, derive program revenues from petroleum fees. Two states charge tank owners only an annual registration fee, and two have both petroleum and tank fees. The petroleum fees range from 0.08 cents to 1.4 cents per gallon.

3 In Minnesota, only nine percent of the claims so far have exceeded $100,000.

4 *Minn. Laws*, 1989, Ch. 226, Section 3, Subd. 2.

## Table 3.4: Funding for Petroleum Tank Cleanups

| State | Annual Tank Fee | Petroleum Tax or Fee (cents per gallon) | Estimated 1991 Revenue ($ millions) | Payment Backlog |
|---|---|---|---|---|
| Illinois | None | 0.3 | $16.8 | Yes |
| Indiana[a] | $245 | 0.08 | 11.9 | No |
| Iowa[b] | $50 | 1.0 | 18.0 | No |
| Michigan | None | 0.875 | 60.0 | No |
| **MINNESOTA** | **None** | **1.0** | **23.3** | **Yes** |
| North Dakota | $75-$125 | None | 0.8 | No |
| Ohio | $150-$300 | None | 8.0 | No |
| South Dakota | None | 1.0 | 6.6 | Yes |
| Wisconsin | None | 1.4 | 44.0 | Yes |

[a]Indiana had not yet paid any claims as of December 1992.

[b]Iowa also collects an annual insurance premium of $200-$400 per tank to cover leaks reported after October 26, 1990. Its revenues include net proceeds from tax-exempt bonds.

The size of a state's payment backlog depends greatly on the speed of claims processing and other factors including leak site characteristics, the rate of progress in cleaning up leaks, ability to control cleanup costs, the portion of cleanup costs that are reimbursable, and the amount of revenue provided to the state's fund. As we show later in this chapter, Minnesota does not have effective methods to review the reasonableness of cleanup costs. It covers more types of tanks and petroleum products than federal regulations require and other states have chosen to include, and often reimburses for a higher proportion of cleanup costs than other states. In addition, as discussed in Chapter 2, Minnesota has cleaned up more sites than most other states. All of these factors contribute to Minnesota's Petrofund deficit.

Table 3.5 shows that most of the states in our survey took six months to review claims. However, Iowa and Michigan processed claims in two or three months and have resolved more claims than Minnesota and others in our survey.

In addition, as shown by Table 3.6, Iowa and Michigan use third-party administrators to help manage their claims. These are private companies that contract with the state to provide services, such as processing claims, determining eligibility for reimbursement, making payments, and reviewing charges. South Dakota also uses a third-party administrator, but only on an hourly basis, mainly to investigate leak sites.[5]

5 South Dakota was the only state in our survey that claimed to visit each leak site. Thus, its third-party administrator performs an additional function. Also, a recent study has indicated that disputes between tank owners and fund staff may prolong claims processing. See South Dakota Department of Legislative Audit, *Review of the Costs of Cleanup by the Petroleum Release Compensation Fund* (Pierre, 1991).

## Table 3.5: Claims Processing in Minnesota and Other States

| State | Total Claims Received | Number Resolved[a] | Processing Backlog (months)[b] |
|---|---|---|---|
| Illinois | 450 | 160 | 6 |
| Iowa | 4,000 | 2,800 | 2 |
| Michigan | 3,400 | 1,975 | 3 |
| **MINNESOTA** | **2,428** | **1,899** | **6** |
| North Dakota | 72 | 52 | 2 |
| Ohio | 323 | 130 | 6 |
| South Dakota | 1,533 | 765 | 6 |
| Wisconsin | 1,600 | 975 | 6 |

[a]Includes partial payments for ongoing cleanups and claims where no payment was made because of deductions.

[b]Excludes payment delays due to insufficient funds.

## Table 3.6: Governance and Administration of Petroleum Cleanup Reimbursement Programs

| State | Board Role | Number of Board Members | Regular Board Meetings Per Year | Who Pays Claims | Number of Staff |
|---|---|---|---|---|---|
| Illinois | Set policies and hear appeals for all environmental issues | 7 | 24 | Environment Agency | 19 |
| Indiana | Set policies and hear appeals | 12 | 4 | Environment Agency | 2[a] |
| Iowa | Set policies, hear appeals, and approve payments over $75,000 | 5 | 12 | Third-party administrator | 12 |
| Michigan | Set policies and hear appeals | 11 | 12 | Office of Management and Budget and third-party administrator | 17 |
| **MINNESOTA** | **Set policies and approve all payments** | **5** | **9** | **Commerce Department** | **3** |
| North Dakota | Set policies and approve all payments | 3 | 8 | Insurance Department | 2.25 |
| Ohio | Set policies and hear appeals | 9 | 8 | Board Executive Director and staff | 10 |
| South Dakota | Set policies, hear appeals, and approve payments over $200,000 | 5 | 12 | Board staff and third-party administrator | 17 |
| Wisconsin | Recommends policies--advisory only | 7 | 4 | Labor and Industry Department | 5[b] |

[a]Authorized to increase staff to 18 in October 1992 when it was scheduled to begin accepting reimbursement applications.

[b]Authorized to increase staff to nine.

Iowa makes the most extensive use of a third-party administrator. It hires its administrator for three-year periods on a flat-fee basis to run the entire program, including processing and paying reimbursement claims and recommending policy to the board. We interviewed Iowa's board chairman, who expressed general satisfaction with the arrangement. He said that using a third-party administrator enabled Iowa to get its reimbursement program up and running quickly without adding to government bureaucracy for what amounts to a temporary program. He added that using a third-party administrator now would facilitate later moving the reimbursement program to the private sector.

According to Michigan's reimbursement program director, that state's third-party administrator is paid on a per-claim basis and has fewer responsibilities than in Iowa. Agency staff log in claims and forward claim files to the third-party administrator, who reviews invoices and recommends payment of eligible expenses. Fund staff then review the administrator's recommendations and make a final determination (subject to appeal) on the amount to be reimbursed. The director told us that the administrator's initial performance was poor, but it has recently improved. He explained that the administrator at first assigned too few staff to the job and fell behind in claims processing.

Table 3.6 further indicates that Minnesota and North Dakota are the only two states in this region to require their boards to set policies and approve all payments. Other boards hear appeals and, in Iowa and South Dakota, approve large payments over $75,000 and $200,000, respectively. Also, Minnesota has fewer administrative staff than most of the other states in our survey. The only exceptions were North Dakota, with far fewer claims, and Indiana, which had not paid any claims as of December 1992.

**Cleanup costs are hard to compare since payment programs vary among states.**

We asked about average cleanup costs in other states but found that differences in reimbursement systems make comparisons deceptive. Minnesota's average cleanup costs appear to be lower than all other states in our survey except North Dakota, but this is partly because Minnesota has no deductible.[6] Cleanup costs also are related to the use of various treatment technologies and cleanup standards. For example, North Dakota's fund administrator told us that relatively few leak sites in that state involve ground water contamination, and the state's low population density allows for greater use of landfilling and landfarming, two relatively inexpensive treatment technologies. As we mentioned in Chapter 1, Minnesota's policy is to discourage the use of landfills. In Michigan and Wisconsin, the average cleanup cost is high, in part, because leak sites must be cleaned up to unusually high standards.

In Table 3.7, we compare Minnesota and other states as to their use of the three most common methods of cost control. Minnesota is one of four states to require competitive bidding, but this rule became effective only in December 1991, and its impact on cleanup costs is not yet known. The table shows

6 Reported average costs are higher in states with deductibles because they do not receive reimbursement claims for low-cost cleanups. Wisconsin has a $2,500 deductible, Iowa and North Dakota have $5,000 deductibles, Illinois, Michigan, Ohio and South Dakota have $10,000 deductibles, and Indiana has a $35,000 deductible.

## Table 3.7: Cost Control Measures in Minnesota and Other States

| State | Competitive Bidding[a] | Certification or Registration | Written Unit-Cost Limits |
|---|---|---|---|
| Illinois | No | No | No |
| Indiana | No | Tank installers and removers only | Yes |
| Iowa | Yes (3) | No | No |
| Michigan | Yes (2) | All contractors | Yes[b] |
| **MINNESOTA** | **Yes (2)** | **All contractors** | **No** |
| North Dakota | Yes (3) | No | Yes |
| Ohio | No | Tank installers and removers only | No |
| South Dakota | No | Environmental consultants (in draft) | Yes |
| Wisconsin | No | Tank installers, removers, and soil testers | No |

[a]Numbers in parentheses refer to the required number of bids.

[b]Unpublished internal guidelines.

that Minnesota requires two competitive bids, while Iowa and North Dakota require three.

**Several nearby states set limits on cleanup prices.**

Five states require certification or registration of some types of contractors or consultants, and three have no such requirements. The PCA requires certification for contractors who install, upgrade, or remove tanks, and the Petroboard by law makes the use of registered cleanup contractors a condition for reimbursement by the Petrofund. Also, if contractors submit fraudulent bills, participate in kickback schemes, or fail to perform according to industry standards, they can be decertified by the Petroboard. This requirement became effective in 1992, and its effect on costs remains to be seen.

Administrators in four comparison states told us that they have written limits or guidelines for reimbursement of specific units of service, although Michigan does not publish its allowable amounts.[7] South Dakota, in contrast, widely distributes its price guidelines for cleanup activities such as soil excavation, hauling, and landfarming but allows exceptions on a case-by-case basis depending on actual conditions.[8] The guidelines are based, in part, on published construction industry data on average costs for different regions of the state.

7 The so-called unit cost limits represent maximum prices funds expect to pay for various types of cleanup services.

8 South Dakota Petroleum Release Compensation Fund, *Information Booklet, Second Edition* (Pierre, 1992).

North Dakota has also developed unit cost limits based on industry rates for environmental and contracting activities.

Later in this chapter, we show that the Department of Commerce staff in Minnesota have reduced reimbursement for a few claims when unit costs were unusually high, but they have not done this systematically. However, in response to a legislative requirement, the Department of Commerce and PCA are now studying the range and appropriateness of prices for different cleanup services.

Besides the three major cost control measures in Table 3.7, some state administrators told us that they routinely visit cleanup sites to make sure that the program pays only for necessary expenses that were actually incurred. In Minnesota, PCA staff told us that they have visited about 12 percent of leak sites, mainly to improve the chances for a successful cleanup, not specifically to verify or control spending. In fact, staff said it is unlikely that their site visits would uncover anything that would reduce cleanup costs. Department of Commerce staff indicated that they visited a total of only about 15 leak sites in the first five years of the Petrofund reimbursement program.

# CLAIMS PROCESSING

Tank owners must initially pay for cleanups themselves, either from their own or borrowed funds. At first, the law required them to wait before applying for Petrofund reimbursement until cleanups were finished or the Pollution Control Agency approved a comprehensive corrective action design. But, to provide faster financial relief, the 1991 Legislature allowed claimants to apply at any of these five stages:

1. After the Pollution Control Agency has approved a plan for soil treatment.

2. After the soil treatment plan has been fully implemented.

3. After the Pollution Control Agency has approved a comprehensive corrective action design to fully address the entire leak site, including ground water contamination if any.

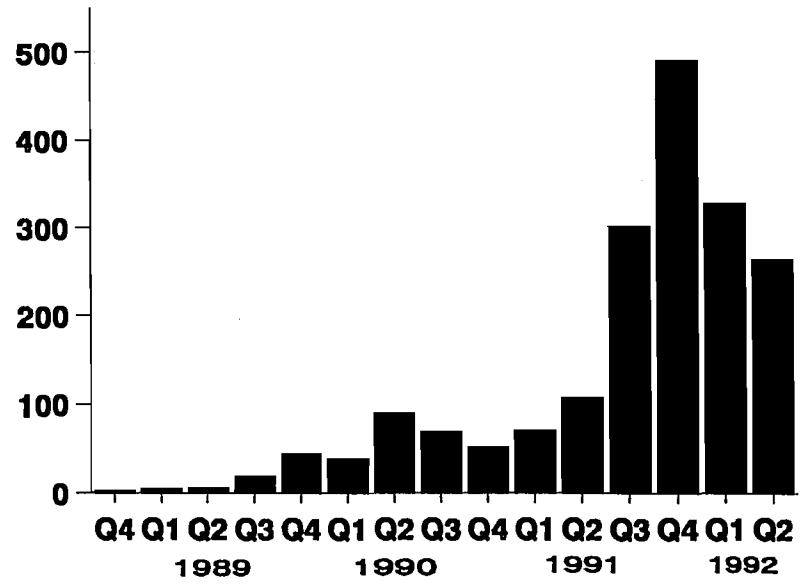
4. After the approved, comprehensive corrective action design has been fully installed or constructed.

5. Periodically as corrective actions continue, but no more than four times per 12-month period unless the application is for more than $2,000.[9]

This change partially explains the recent, dramatic increase in the volume of claims against the Petrofund. (See Figure 3.1.) We found that the Petroboard handled 100 to 200 claims at several meetings in 1991 and 1992. In contrast,

9 *Minn. Laws* (1991), Ch. 175, Section 4.

**Figure 3.1: Claims Handled by Petroboard Per Quarter**




**Source: Department of Commerce.**

**The Petroboard has recently been deluged with claims.**

during its first three years of existence, the board dealt with a maximum of 39 claims per meeting.

## Staffing

We interviewed staff and managers at the Department of Commerce and reviewed relevant documents including board minutes and the department's 1992-93 budget request. We noted that the claims analysts routinely demand copies of receipts for services and raise many detailed questions before recommending payment. However:

- **The Department of Commerce and Petroboard have lacked resources to run the reimbursement program cautiously and efficiently.**

As a result:

- **Claims against the Petrofund have been paid with little effort to ensure that cleanup costs are reasonable and legitimate.**

Until July 1991, only one analyst reviewed claims full-time at the Department of Commerce. The Legislature authorized one more position at that time, and late in 1992, the department assigned one of its other employees to help review Petrofund claims. The authorized analysts both have additional responsi-

bilities. Besides reviewing claims, they plan and organize Petroboard meetings, write minutes, develop rules, maintain financial records, and answer numerous inquiries about the application of the law and rules and status of specific applications.

For most of our study period, the Department of Commerce assigned 2.5 analysts to review Petrofund claims and perform other duties. All were college graduates who had considerable experience with Petrofund claims but no specific training in insurance, claims processing, or pollution control. Two of the three analysts had served as executive director of the Petrofund, which has had six different directors since it began in 1987.

Petrofund staff review applications for reimbursement in order of receipt. The 1991 Legislature imposed a 60- to 120-day limit on their review, but in late October 1992, the analysts told us that they had a backlog of about 600 claims and were about six months behind, reviewing claims that arrived in April. If the backlogged claims are typical of past claims, with the same average value of $38,112, they represent an obligation of roughly $23 million.[10]

**Neither the Petroboard nor staff have been able to keep up with incoming claims.**

At a special meeting in February 1992, the Petroboard addressed staff's workload, among other issues. To meet the legislative requirement, the executive director estimated that staff would need to review and prepare recommendations on 300 applications per meeting.[11] Since staff already were working extensive overtime, the executive director estimated that one to three additional positions would be needed. Subsequently, the board passed two resolutions, asking the Legislature for a fee increase and for two additional full-time positions and three temporary positions to process claims.[12] The resolutions are reprinted in Figure 3.2.

In a report to the Governor and Legislature, the Pollution Control Agency and Department of Commerce also requested staff so that (1) some claims could be audited and (2) all claims could be reviewed for potentially excessive charges.[13] The two agencies pointed out that the volume of claims placed a heavy burden on the Petroboard and kept staff from developing and carrying out effective programs to detect unreasonable, false, and fraudulent claims. According to the report, such programs could save the Petrofund ten percent of its total annual reimbursements, or about $5 million.

In its 1992-93 biennial budget request, the Department of Commerce requested two additional claims analysts and one clerical position to handle the increased workload.[14] However, in the same budget request, the department

*10* The average per leak site is slightly higher ($39,044) because the Petroboard sometimes receives more than one claim from different parties who are involved with the same cleanup project.

*11* Although the law allows 120 days to process some claims, the department uses a 60-day standard because staff do not categorize incoming applications.

*12* Petrofund Board Meeting Minutes, March 12, 1992.

*13* Department of Commerce and Pollution Control Agency, *Report to the Governor and Legislature on the Petroleum Tank Release Cleanup Program* (February 1992), 2, 16, 19, 20.

*14* Office of the Governor, *Infrastructure and Regulation 1992-93: Proposed Biennial Budget*, 112.

## Figure 3.2: Resolutions Passed by the Petroboard, March 12, 1992

**RESOLUTION ONE**

**WHEREAS,** the number of applications to the Petrofund Board for reimbursement of clean up costs exceeds the ability of the limited Commerce Department staff to review those applications for adequacy and cost control purposes.

**WHEREAS,** the same is true of the Petrofund Board's ability to review those applications for adequacy and cost control purposes.

**THEREFORE, Be It Resolved** that the Petrofund Board delegates to the Chairman of the Board the authority to set the number of applications that the Commerce Department staff and the Petrofund Board can and will consider at each Petrofund Board meeting.

**FURTHERMORE, Be It Resolved** that the Petrofund Board recommends that the Legislature provide two (2) more staff to the Commerce Department.

**IT IS FURTHER RESOLVED** that the Petrofund Board recommend that the Legislature provide authority to the Petrofund Board to direct the Commissioner of Commerce to hire up to three (3) temporary staff as work flow demands dictate, to be paid for out of the Petroleum Tank Release Clean Up Act.

**RESOLUTION TWO**

**BE IT RESOLVED** that the Petrofund Board recommends that the Legislature increase the Petrofund fee from one (1) cent per gallon to two (2) cents per gallon for the purposes of assuring:

1) Expeditious cleanup of the environment.
2) Expeditious reimbursement of cleanup costs to tank owners and operators.
3) Continued authorization from the United States Environmental Protection Agency for the Petrofund to serve as the federally mandated financial assurance mechanism for tank owners and operators.
4) Improved willingness by banks to provide loans for cleanups.

noted that the Petrofund reimbursement program was unrelated to its overall mission and, as a result, Minnesota citizens might be better served if the Pollution Control Agency regulated the Petrofund reimbursement program as well as cleanups.

In response to the Department of Commerce, the Governor wrote that he did not support a fee increase to raise Petrofund revenues, which would have paid for the proposed staff and speeded up payment on approved claims.[15] He recommended legislation that would limit the state's total liability for the Petrofund reimbursement program to reimbursements that can be supported by the current penny-per-gallon fee.

The Commerce Department's claims analysts told us that no one has ever audited claims against the Petrofund, although the law says that the Petroboard

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*15 Ibid.*, 112.

is responsible to reimburse only for reasonably priced services that have actually been provided.[16] They also stated that they have no formal guidelines or computer system to help them determine whether prices are reasonable. In their 1992 report to the Governor and Legislature, the Pollution Control Agency and Department of Commerce admitted that "the analysis of reasonableness is currently at a primitive stage" because of the large number of claims being submitted to the Petroboard.

## Eligible Costs

Analysts review claims against the Petrofund mainly to identify whether costs are eligible for reimbursement.[17] For example, cleanup costs must have been incurred after June 4, 1987, and must meet the statutory definition of a corrective action, which is to minimize, eliminate, or clean up a petroleum leak in the interest of public health or the environment.[18]

**Staff review claims mainly for eligibility, not reasonableness.**

Five major categories of costs are eligible for Petrofund reimbursement:

1. Emergency response and initial site hazard mitigation to address immediate, acute risks such as fire, explosions, and further leakage.

2. Temporary hazard control measures including housing and bottled water, ventilation, and removal of uncontained petroleum.

3. Investigation and problem identification such as testing and analyzing soil, water, and tanks.

4. Development of a corrective action design consistent with Pollution Control Agency requirements.

5. Cleanup activities such as treatment and disposal of contaminated soil and water.[19]

As shown in Figure 3.3, most (58 percent) of the Petrofund's resources have been devoted to cleanup activities. Investigation has accounted for 30 percent of reimbursements, and corrective action designs, 6 percent. Less than 1 percent of the money has been spent for emergency responses and temporary hazard controls.[20]

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*16 Minn. Stat.* §115C.09, Subd. 3(b).

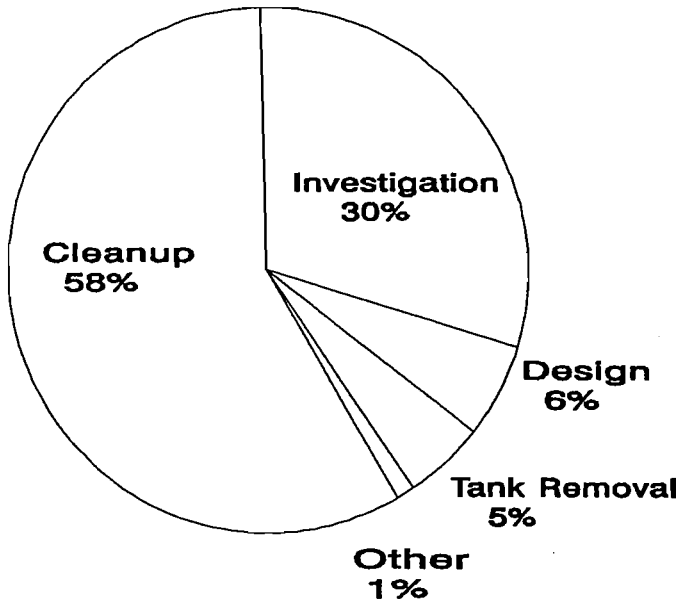
*17* Pollution Control Agency and Department of Commerce, *Report to the Governor and Legislature* (1992), 19.

*18 Minn. Stat.* §115C.02, Subd. 4.

*19 Minn. Rules* 2890.0070, Subp. 1.

*20* In July 1992, the Department of Commerce stopped producing its only statistical report on Petrofund expenditures, the Petrofund Information Hold File, which was the source of Figure 3.3. The department did not find the information useful.

**Figure 3.3: Purpose of Petrofund Reimbursements through June 1992**




**Source: Department of Commerce.**

Historically, five percent of Petrofund expenditures have been related to tank removal, but the 1990 Legislature disallowed this type of expenditure. Other ineligible costs include: loss of income; attorney's fees; decreased property value; aesthetic improvements; repair, replacement, and upgrading of tanks; permanent relocation of residents; work not in compliance with safety, health, well, and fire codes; costs covered by insurance; and owners' administrative time.

**The law requires timely claims processing, but that has not occurred.**

## Claims Processing

In August 1991, the Department of Commerce began to record the date when Petrofund claims arrived. We used this limited information to determine how long claims recently have been in process before the Petroboard met and acted upon staff's recommendations.[21]

Only 2 of 591 of the claims where the board took action between August 1991 and June 1992 were resolved within 60 days. Half of the claims took more than 100 days, and the average was 107. As we mentioned earlier, staff have acknowledged that they are far behind, but in some cases it is because applicants themselves are slow to respond to questions.

Another reason for claims processing delays is that many Petrofund claims are incomplete or defective on receipt, and staff have taken as much as a month to

*21* Between August 1991 and June 1992, when we obtained data, the board resolved a total of 591 dated claims. We could not calculate how long it would take to process the backlog of 529 claims which then existed.

personally gather the necessary information and correct the errors. The analysts told us that the majority of claims lack some information needed for payment, such as receipts. In addition, claimants often fail to itemize charges in sufficient detail, make arithmetic errors, and misclassify some services.

The Petroboard's application form is long (14 pages) and detailed. As a result, the claims analysts have concluded that it is generally quicker to call applicants for needed information, rather than to return the applications. Other times, if applicants cannot provide some information quickly, the analysts may ask the board to pay first for the documented costs and later for the remainder on a supplemental claim.

When the analysts have finished their review, they send a letter to each applicant, indicating how much reimbursement they will recommend to the Petroboard and when the board will meet to review their recommendations. For the Petroboard members, the analysts prepare a typed, two-page summary of each claim. In addition, the analysts attach a computer-generated site report from the Pollution Control Agency, which we describe below, plus any correspondence they have received from applicants who disagree with their recommendations.

In general, representatives of the petroleum industry praised the analysts' work and told us that they did a good job under the circumstances. However, the analysts told us that they are often suspicious of claims and would strongly prefer to have specific guidelines which would help them determine the appropriateness of cleanup prices and procedures.

**Fraud and abuse are legally hard to prove.**

We think it would be difficult for the analysts to prove that Petrofund claims are fraudulent or purposely excessive, and it would be inappropriate to make such allegations without strong evidence. Representatives of the Attorney General's Office told us last June that they were investigating three cases of suspected fraud and abuse of the Petrofund, but problems may be more widespread. Among other allegations, they were exploring the possibility of falsified lab reports, billing for non-existent leaks, kickback schemes, fictitious competitive bids, and deliberate petroleum contamination during the process of tank removal.

As of December 1992, the Attorney General was considering criminal charges in one case and continuing to investigate a few others. The attorneys explained that each investigation is costly and time-consuming because they must separate errors, incompetence, and excessively high prices from outright illegal activities. PCA and investigators at the Department of Commerce have been helping the attorneys.

## Petroboard Meetings

Despite the volume and backlog of claims awaiting review, the board has continued its schedule of regular meetings once every six weeks plus occasional special meetings. Early in 1992, when members faced more claims than they

**Some Petroboard meetings in the past have taken two days.**

could decide upon in full-day meetings, they considered meeting every four weeks. However, they decided instead to let the chair determine how many applications the staff and members could reasonably handle.[22] Since February 1992, that number has been about 125.

One reason that the Petroboard reduced the number of claims on its agenda was that the Petrofund lacked revenues to make payments any time soon after meetings. Second, members were concerned that larger numbers of claims would not receive adequate individual attention. Third, the executive director feared that the claims analysts could not continue to cope with the workload.

By law, the Petroboard must review and decide on reimbursement for every claim, and some members said it took 16 to 18 hours just to read the claims summaries and attachments in preparation for meetings which sometimes lasted two days. Based on our examination of board materials, this is a reasonable estimate. For the five meetings which occurred in July, August, October, November, and December 1992, the documents weighed a total of 16 pounds. In general, we found that:

- **The Petroboard spends too much time on the details of claims payment.**

To help the board with its task of reviewing and paying claims, staff recently began to sort their summaries into three categories: (1) those they recommend for the standard 90 percent reimbursement; (2) those for which they recommend reimbursements below 90 percent, and the applicant does not object; and (3) those for which the proposed reimbursements are below 90 percent, but the applicant objects. Also, the executive director last summer attempted to limit policy discussions to 20 minutes per topic and put such business last on the agenda.

Despite staff's efforts to streamline meetings, we observed that Petroboard members commonly make last-minute changes to the agenda and go out of their way to accommodate complainants. They consider late correspondence and welcome unexpected personal appeals. In general, the board has remained open to new information, whether it arrives before or after their initial decisions.

If Petrofund applicants are not satisfied with the Petroboard's decisions, they are entitled to a hearing by an administrative law judge. However, because the board is so receptive, only a few claimants have used this option. At recent meetings, we saw that the board spent most of its time reviewing new information about old claims and listening to aggrieved applicants, their contractors, and, sometimes, attorneys.

For example, the Petroboard recently heard and forgave a cabin owner for reporting a petroleum leak late because of a festival in the nearby town. The man persuasively argued that he had tried unsuccessfully to locate and inform

22 See Department of Commerce, Special Petrofund Board Minutes, February 12, 1992.

local officials. In another case, board members debated whether the cost to replace a lighted service station sign, which had fallen into an excavation site because of heavy rain, was eligible for reimbursement by the Petrofund. In three recent cases, the board revisited claims for various reasons: in one case, a member was absent for a tie vote; in another, they lacked technical information about the contents and characteristics of a tank; and in a third, they needed a legal opinion about the definition of petroleum. In all, our analysis of the past year's board minutes showed that members tabled 44 claims and reconsidered 108, sometimes at more than one meeting.

**Most claims are routine and uncontested.**

However, in most cases, we found that the board has acted simply to approve staff recommendations. As a result:

- **The law requiring board action on all claims, including uncontested cases, has caused unnecessary delays in claims processing.**

As we explained above, the Petroboard must review and decide each claim against the Petrofund. Since April 1992, when staff began to flag all of the uncontested claims, the Petroboard has expedited its meetings by voting to pay the recommended amount for the group as a whole. We found that these have been the majority (66 to 80 percent) of recent cases.

## Board Interests

When legislators established the Petrofund reimbursement program, they designated two of the five board positions for representatives of the petroleum industry and one for a representative of the insurance industry. The other members, from PCA and the Commerce Department, represent two state agencies whose staff develop payment recommendations. Since the board members recognized that built-in ties to claimants could pose problems, they adopted a rule on conflict of interest.[23] The rule states that members should refrain from participating in decisions where they have a direct or indirect financial or employment interest in matters before the board. Further, they should make the interest known.

Last May, the executive director of the Petroboard obtained written guidelines on conflict of interest from the Attorney General's Office.[24] In a memo, the attorney explained that *Minn. Stat.* Ch. 10A, on ethics in government, applies to public officials including boards with rule-making authority such as the Petroboard, and prohibits them from decision making when they have a substantial financial interest in the outcome. The attorney further explained that the statute would apply to Petroboard members in degrees, depending on the strength of their connection to claimants and the extent of their financial interest. In his opinion, some degree of general financial interest is built into the board structure. He suggested that board members should contact the Ethical

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*23 Minn. Rules* 2890.0050.

*24* Memo from Prentiss Cox, Special Assistant Attorney General, to Virginia Hogan, Executive Director, Petroboard, May 29, 1992.

Practices Board if they had any doubt as to a conflict of interest in specific cases.

However, the activities of one individual board member raise issues regarding conflict of interest as well as the make-up of the Petroboard. The board member, who was appointed to represent the petroleum industry, wrote to previous board counsel in December 1991 and indicated that he had resigned the position he held when appointed. Instead, he had established an association devoted to tank owners and their problems. In a letter soliciting members, he said that he intended to remain on the Petroboard "which is in charge of reimbursements and recommending any new laws, rules, and regulations."[25] Among other membership benefits, the board member offered effective lobbying on state and local levels concerning the Petrofund law, liaison between members and the Pollution Control Agency, and help with applications for Petrofund reimbursement. Subsequently, he told us in a sworn statement that he made it part of his for-profit business to provide Petrofund minutes and agendas to the public for a fee after the Department of Commerce reduced its mailing list.

These activities may not be illegal, but they do raise questions about the Petroboard. In our view, the board should examine this issue and clarify its rule on conflict of interest.

Aside from this particular situation, we generally question the desirability of the Petroboard's composition and scope of duties in light of the Legislature's growing desire for economy. In Chapter 4, we suggest ways to address this and related concerns.

## Reduced Reimbursement

**In some cases, the Petroboard pays less than 90 percent of cleanup costs.**

In 1991, the Petroboard adopted rules which reduce reimbursements below the usual 90 percent reimbursement in these situations: failure to comply with tank rules and regulations (can be reduced 10 to 25 percent or 5 percent specifically for lack of registration, if applicable); failure to notify the Pollution Control Agency promptly of a leak (can be reduced 10 to 25 percent); failure to fully cooperate with the agency in cleaning up the leak (25 to 50 percent); and failure to carefully operate the petroleum storage tank (25 to 50 percent).[26] Further, the law and rules allow the board to increase or decrease the size of reductions depending on the likely environmental impact of the leak and the extent to which tank owners are negligent or willfully disobedient.

On these points, Commerce staff are guided almost entirely by leak site reports from the Pollution Control Agency, which indicate whether tank owners behaved adequately under the circumstances and what impact their behavior

25 Letter to Petroleum Tank Owner/Operator, undated, from Brian Ettesvold, President/CEO, Petroleum Tank Group.

26 *Minn. Stat.* §115C.09, Subd. 2(c) and *Minn. Rules* 2890.0065. A board committee has been considering a rule change to permanently replace the percentage for lack of tank registration with a flat fee.

had on the environment. In some cases, the agency also attaches an explanatory letter.

When the Pollution Control Agency indicates that tank owners' response to leaks has caused some adverse environmental impact, Commerce staff recommend reductions at the high end of the specified ranges. However, this has happened in only a few cases. In all other cases, staff told us that they suggest the lowest possible percentage reductions, which the Petroboard sometimes further reduces.

We reviewed board minutes for fiscal year 1992 and determined how many reductions Commerce staff proposed and how the Petroboard responded in each of the four situations described above. In general:

- **The Petroboard has often agreed to small reductions but usually not to large ones.**

Table 3.8 shows that the staff proposed 632 reductions, mostly for minor infractions. The most common reason for reimbursement reductions was that tank owners failed to comply with rules and regulations, most notably registration and advance warning of tank removal. Second, some of the applicants failed to notify the Pollution Control Agency promptly of leaks, that is, within 24 or 48 hours.[27]

## Table 3.8: Petroboard Response to Reductions Proposed by Staff

| | | Board Action | | |
|---|---|---|---|---|
| Reason for Proposal | Staff Proposals | Upheld | Overruled | Partially Upheld |
| Failure to comply with regulations | 370 | 265 | 81 | 24 |
| Late notification of leak to PCA | 235 | 147 | 73 | 15 |
| Failure to cooperate with PCA | 15 | 4 | 9 | 2 |
| Careless procedures | 12 | 4 | 5 | 3 |
| Total | 632 | 420 | 168 | 44 |
| Percent | 100% | 66% | 27% | 7% |

**Payment reductions usually are small.**

Since the Pollution Control Agency rarely reports that tank owners are uncooperative or careless, Commerce staff rarely recommend the larger potential reductions of 25 to 50 percent. In 27 cases where staff suggested such reductions, Table 3.8 shows that the Petroboard usually rejected the reduction or only partially agreed. Nevertheless, the combined effect of such reductions sometimes has been huge. In two cases, the board completely denied reimbursement to tank owners because their contractors caused petroleum contami-

27 Board members have variously used one or two days as the standard for prompt notification. The Pollution Control Agency tells tank owners that they must report leaks in one day or less.

nation by removing tanks. In one such case, workers allowed a large chunk of concrete to fall onto a tank, and then it leaked. In the second case, the contractor neglected to empty and cap the tank before removing it.

We also looked for other reasons why the Petroboard has sometimes approved less than the usual 90 percent reimbursement. In 39 cases, we found that reimbursement was less because insurance would pay some or all of the costs. In 10 cases, some or all of the services were ineligible, such as a tank owner's own time administering the cleanup; contamination caused by non-petroleum products; storage of contaminated soil on the owner's property; and expenses for a consultant to study what costs the Petrofund would pay. Similarly, the board refused to pay for emptying tanks and disposing of the remaining petroleum.

**On occasion, the Petroboard and staff have informally limited payments.**

Five cases involved excessively high charges such as removing over 6,000 cubic yards of soil when the Pollution Control Agency approved only 400 and treating soil without evidence of petroleum contamination. In two other cases, the board approved payment of $40 per cubic yard for landfarming, instead of $75, and $50 for delivery of soil samples, rather than $210 as the applicant requested. Staff told us that these costs seemed excessive based on their experience. In addition, the Petroboard has refused to pay more than $250 for contractors to prepare applications for Petrofund reimbursement. This limit applies not only to initial claims but to all successive claims. Also, the board has limited the markup on subcontractor services, if any, to a maximum of 15 percent. In fiscal year 1992, our analysis showed that this limit had affected one claim.

## SUMMARY

The Department of Commerce has lacked resources to process claims efficiently and to help the Petroboard fulfill its legal obligation to pay only for the reasonable cost of services that are actually rendered. The board and staff alike have been overwhelmed with claims against the Petrofund, and their ability to review or control costs has been limited. Their efforts to obtain more staff have been only partially successful.

Now, applicants must wait about six months for analysts to review their claims and another four to five months for the Petrofund to accumulate money to pay claims after the Petroboard gives its approval. Between the payment and processing backlogs, we estimate that this leaves the fund about a year behind its current obligations.

Our survey showed that Minnesota is not the only state facing financial difficulties and administrative problems with reimbursement programs for petroleum cleanups. However, we concluded that problems are greater here than in other states because the cleanup program is better developed and the reim-

bursement program broader and more generous. In Chapter 4, we suggest some possible solutions to the Petrofund's problems.

# Recommendations

**CHAPTER 4**

In this chapter, we provide an overview of our major findings and suggest several ways to address the Petrofund program's shortcomings. We ask:

- **Why has the Petrofund accumulated a substantial deficit?**
- **What options are available to policy makers who must deal with the present and future Petrofund deficit? How can they reduce program costs?**
- **How can the Department of Commerce improve administration of the reimbursement program? What further actions should it take to control costs?**

In deciding how to act, the Legislature needs to consider: the desired balance between business interests, the environment, and public health; tank owners' ability to pay for cleanups and maintain financial coverage for potential damages; and program costs that Minnesota citizens ultimately bear. Over five years, the Petrofund reimbursement program has cost about $12.50 per car, yet this has not been enough to meet expenses. And, unless the program fundamentally changes, drivers are likely to pay an additional $5 per car annually for the foreseeable future.

## OVERVIEW

Although the federal government does not directly require states to subsidize petroleum tank owners for cleaning up leaks, Minnesota and 42 other states have chosen to do so by establishing state-financed reimbursement programs such as the Petrofund. Partly because its Petrofund is unusually generous, Minnesota has begun and completed more underground tank cleanups than other states. The cleanup program has made administrative improvements recently and has earned high praise from federal officials. But in consequence:

- **The demand for reimbursement has outstripped the revenues that are available to the Petrofund, and now it lacks the money to pay tank owners within a reasonable time.**

Through June 1992, the Petrofund had made or approved payment on a total of 1,853 leak sites at a cost of more than $72 million. Most of these claims were made within the past two years. In fiscal year 1992 alone, the Petroboard agreed to pay $44 million to tank owners, although the Petrofund receives a maximum of only about $30 million annually. Petrofund revenues are essentially fixed because they come from a penny-per-gallon fee on wholesale petroleum, and yearly consumption has been constant at about three billion gallons for the past decade.

As a result, the Petrofund has lacked sufficient money to promptly pay the claims approved by the Petroboard since October 1991. At that time, the deficit was $600,000, but it grew to $4 million by December. In Spring 1992, the shortfall was $6 to $8 million, and tank owners had to wait several months for payment after the Petroboard approved their claims. By October 1992, the deficit was about $11 million, and the Department of Commerce predicted that it would be about $14 million by June 1993.

Over the next six years, when most of the tanks must be upgraded or replaced, the Pollution Control Agency and Department of Commerce have estimated that the Petrofund will approve payment of $300 to $360 million more. Considering the current deficit and backlog of unprocessed claims (together, about $30 million), and assuming constant annual revenues of $30 million, this suggests that the Petrofund may be short $150 to $210 million by 1998. However, the Petrofund's actual future deficit could be much larger than the agency and department have estimated because unregistered leaking tanks are regularly discovered, and about half of the cleanup projects are incomplete.

**At the current rate of revenue, it could take 24 years to pay for current and future cleanups.**

When complete, we estimate that the anticipated 11,500 cleanup projects could ultimately cost an average of $70,000 each and a total of more than $800 million, including past payments. If so, at the current maximum rate of $30 million in annual revenues, it would be necessary to collect the one cent-per-gallon fee continuously for another 24 years.

# REASONS FOR THE DEFICIT

Six main factors help to explain the Petrofund's financial problems:

- **Minnesota's Petrofund reimbursement program covers more tank owners, more generously, than most other states.**
- **The Legislature has significantly expanded the Petrofund reimbursement program without increasing revenues.**
- **Minnesota has made better progress than most other states in identifying and cleaning up leaks.**
- **Cleanup efforts have proven to be technically difficult and unexpectedly costly, especially when petroleum has contaminated ground water.**

- **Claims against the Petrofund are paid with little effort to ensure that cleanup costs are reasonable and legitimate.**

- **The Department of Commerce and Petroboard lack the resources to run the reimbursement program cautiously and efficiently.**

We reviewed two other potential reasons for the Petrofund's deficit but found no evidence to support one of them and withheld judgment on the other. First, some policy makers suspected that the Pollution Control Agency set Minnesota's cleanup standards so high that they bankrupted the Petrofund. Our results showed that this is not the case, for:

**There are several reasons for the Petrofund deficit, most notably the scope of Minnesota's reimbursement program.**

- **Among the 50 states, Minnesota's soil and water cleanup standards are neither the most stringent nor the most lenient.**

Last June, the Pollution Control Agency increased the level of petroleum contamination it will allow in soil. Also, we found that the agency's water standards allow a higher level of cancer risk than several other states.

Second, policy makers suspected that the deficit could have been caused by rampant fraud and abusive practices by the cleanup industry. This is unlikely since data showed:

- **Wide variations in cost can logically be explained by the extent and complexity of cleanup activities.**

The larger, more difficult cleanup projects were more expensive mainly because tank owners received more services under PCA-approved plans. For example, contractors installed greater numbers of monitoring wells, excavated larger amounts of soil, and used multiple treatment methods, both for water and soil.

We noted that cleanup contractors have opportunities to charge excessive prices, particularly since no one has ever audited Petrofund claims, but it is difficult to prosecute cases of fraud or abuse in any industry. Representatives of the Attorney General's Office told us last June that they were investigating only three cases of suspected fraud and abuse of the Petrofund, but they had not yet determined whether any contractors have shown a clear pattern of illegal business activities. In December, the Attorney General's Office was considering criminal charges in one case and was continuing to investigate others with help from the Department of Commerce and PCA.

# POLICY OPTIONS

The Petrofund reimbursement program poses two general questions for policy makers. First, how can the program pay off its existing financial obligations? Second, can the state afford to continue the program in its current form?

## Existing Debts

Although numerous options are available to policy makers in deciding their long-range goals for the Petrofund reimbursement program, we think that they have little choice but to resolve the immediate problems of paying $23 million for backlogged claims and about $11 million for claims which the Petroboard approved with insufficient funds.

**Legitimate claims should be paid as soon as possible.**

In our opinion, the state should pay tank owners' legitimate claims as soon as possible. There are practical reasons for the state to quickly resolve the Petrofund's shortfall: (1) the Petroboard pays up to 180 days of interest and as much as two percentage points more than the adjusted prime rate charged by banks for applicants' financing charges, and (2) the Environmental Protection Agency could otherwise declare the Petrofund insolvent and therefore not an acceptable financial assurance mechanism. If the latter occurred, Minnesota tank owners could be required to quickly find or develop alternative methods to assure the federal government that they have the financial resources to pay for cleanups and potential damages to third parties. This would be difficult particularly for small businesses and non-profit organizations.

If the Legislature chooses to continue the current fee, the Petrofund's deficit will grow larger. This would mean that the penny-per-gallon fee would be in effect for years beyond 1998, and tank owners would wait progressively longer for their payments. This could result in hardships and even closures of some small businesses--the very outcome that the reimbursement program was designed to avoid. Major payment delays could also reduce incentives for tank owners to comply with state and federal requirements and could cause additional damage to the environment and public health.

Between the backlog of unprocessed claims and unpaid, approved claims, we estimate that the Petrofund is now about one year behind its obligations. To pay tank owners more promptly, the Legislature would need to authorize more revenue. Therefore, we recommend that:

- **The Legislature should consider authorizing the Petroboard to raise revenues on a temporary basis by doubling the penny-per-gallon fee on wholesale petroleum.**

We understand that the Petroboard will ask the 1993 Legislature for authority to collect a two-cent-per-gallon fee, and we agree that this would be helpful.

If the Legislature prefers not to give the Petroboard authority to raise the wholesale petroleum fee, it could consider other sources of revenue. For example, some states impose annual tank registration fees. However, federal officials told us that tank fees have been hard to collect in some states, and they would require the Department of Revenue to develop and implement a large new collection system for thousands of tank owners. The department told us that the current fee, by comparison, is quite easy to collect along with other taxes on approximately 800 petroleum distributors.

Another possible revenue source would be to give the Petroboard authority to issue tax-exempt bonds. The Iowa reimbursement program has done this successfully, and Minnesota's Petroboard has already explored the possibility. Alternatively, the Legislature could simply supplement the Petrofund with general fund revenues for the duration of the program. However, this solution would add costs to an already strained state budget and diminish the principle that those who have contributed to environmental problems should bear direct responsibility for correcting them.

# Future Considerations

In our opinion, the Petrofund reimbursement program should not continue in its current form. The number of eligible tanks is unknown, and the promise of tidy cleanups has faded. The fund could ultimately be liable for more than $800 million, yet it has been overburdened for more than a year with obligations which only recently reached $72 million. Claimants are understandably frustrated, and the U.S. Environmental Protection Agency is concerned. The board has acknowledged that it has been unable to adequately review so many applications for reimbursement, although the law says that they must ensure that payments are reasonable and services were actually delivered.

To make the reimbursement program viable over the next several years, the Legislature has a limited number of options: to enhance revenues, reduce expenses, or both. As a first step, we recommend that:

- **The Legislature should consider refocusing the Petrofund program after 1998.**

**The Petrofund's main mission should be over in 1998.**

At that time, most tank owners are required to have leak-resistant tanks, and the primary mission for the reimbursement program should be complete. Thereafter, the Petrofund or some other funding mechanism would be needed in limited cases, for example, to pay for unfinished cleanup projects, leak sites where tank owners cannot be identified, and situations where responsible parties are unable or unwilling to pay. However, the fund's role would be much smaller than it is now, and the current one-cent fee could be adequate when imposed on an irregular basis, as needed.

After 1998, we think tank owners should obtain insurance from sources other than the state and generally be responsible for cleaning up leaks since they would result mainly from improper maintenance and operation of the new or improved tanks. The state would not need to continue bearing the responsibility of direct reimbursement to tank owners, particularly since most leaks pose relatively low risk to public health, welfare, and the environment.

After five years of generous financial assistance, we think it is appropriate for the state to contemplate returning most of the burden of cleanups to tank owners. Typically, they have benefited from using the tanks in the course of business, and they are logically responsible for maintenance. Few if any other

industries have the benefit of a state-run, consumer-financed program to relieve them of the environmental costs of doing business.

**The state need not insure tank owners indefinitely.**

By establishing a "sunset" date within the next few years, the Legislature could encourage the development of a market for private insurance. When insurance became scarce in the 1980s, the state essentially took over this line of business. Since most tanks have been and will continue to be upgraded, the insurance business might be revived if the state pledged to phase out the Petrofund reimbursement program. If private insurance remained unavailable, trade groups and nonprofit associations could form their own insurance programs, and large companies could insure themselves. However, if alternative financial assurance mechanisms remained scarce as the sunset date approached, the state could retain a limited version of the reimbursement program, replace it with a loan program, or assist tank owners through a joint underwriting association, among other options.

It is important to point out that any sunset date is likely to prompt more cleanups, more quickly, and put a further strain on limited resources. For this reason, the Legislature may be called upon later to give the Petroboard authority to raise the fee even higher than two cents per gallon. Although a fee of three to five cents per gallon might seem onerous, a sunset date would mean that it would apply only for a limited time.

## Ways to Limit the Program

Although we think that some administrative changes would help to reduce the cost of many cleanup projects, we doubt that the resulting savings would outweigh future demand plus the Petrofund's large backlog of claims and substantial, growing deficit. We think that the only certain way to significantly reduce program expenditures is to limit the program. Therefore:

- **The Legislature should consider reinstating some of its previous restrictions and adding other limits on Petrofund reimbursements.**

**Previous payment limits could be restored and new ones added.**

Below, we present several policy options for discussion in light of the state's financial difficulties and the Petrofund's revenue shortage. For example, the Legislature could restore the deductible which it lifted in 1989. If claimants had paid a $10,000 deductible since the program began, we estimated that the Petrofund would have saved about $16 million or 22 percent of total expenditures. Thus, revenues would be approximately equal to expenses, and the staff would have had about 40 percent fewer claims to process. Similarly, if the Legislature had reinstated the previous deductible for fiscal year 1993, when the Department of Commerce expects that the Petroboard will approve payments of about $37 million, the Petrofund could have saved roughly $8 million.

Besides saving money, a deductible of any size would also increase tank owners' financial interest in the cleanup process, and that could help to control costs. However, a deductible could be a major financial burden for some tank

owners. To address special needs, policy makers could consider different deductibles or exemptions for certain categories of tank owners, depending on their resources.

**Legislators have many options to reduce future obligations.**

Another option is for the Legislature to reduce the Petrofund's share of reimbursement costs. The Petrofund initially paid 75 percent of cleanup costs, but the Legislature raised the fund's share to 90 percent in 1989. If coverage had remained at 75 percent, this alone could have saved the Petrofund about $12 million through June 1992. For fiscal year 1993, 75 percent reimbursement (if used along with a $10,000 deductible) could have saved $5 million. Also, tank owners' economic self-interest could have been heightened.

Third, the Legislature could restore the $100,000 payment limit, which was originally set for the Petrofund. Only nine percent of leak sites have so far cost the fund more than $100,000, but together they have cost about $28 million, and they account for 38 percent of total expenditures. If reimbursement had been limited to $100,000 throughout the program, we estimated that the Petrofund would have saved about $11 million so far. However, by returning to a $100,000 limit, tank owners would lose their ability to use the Petrofund as a $1 million financial assurance mechanism which is required by the federal government. As we explained above, they would be required to buy insurance or develop other mechanisms to ensure that they could pay for potentially expensive cleanup projects.

Another option would be to limit the Petrofund's liability by providing a maximum of $500,000 for small tank owners who are not engaged in petroleum production, refining, or marketing. This would meet federal requirements but probably would not save much money. Claims for only one leak site have cost more than $500,000 so far, and only about $340,000 could have been saved. The Petrofund now provides the same benefits of up to $1 million (or $2 million for a tank facility) regardless of tank owners' financial status.

More generally, the Legislature could limit Petrofund reimbursement to certain types of tanks, classes of owners, and situations. For example, large petroleum marketers could pay a higher percentage of cleanup costs than small businesses, government units, and nonprofit organizations. The Legislature could restrict coverage to underground tanks, as other states often do, or eliminate coverage for small residential and farm tanks that are not subject to federal financial assurance requirements. The Legislature also could limit reimbursement to leak sites with the greatest threat to public health and the environment and stop paying for ongoing costs of cleanup operations after a certain period of time, such as five years. Lack of data prevented us from estimating what might have been saved by these various measures.

A further possibility would be for the Legislature to allow the Petroboard to deny payment to uncooperative or noncompliant tank owners. The Petroboard now reduces payments in most cases, but a return to stringent standards would save money and, perhaps, improve tank owners' behavior. We estimated that had the board denied all claims that it has reduced for such failures, it could

have saved the Petrofund up to $32 million. Also, if the board made this restriction clear to potential applicants, the number of claims could have been cut by about 40 percent.

By restricting or eliminating coverage in any of these ways, it is possible that policy makers could reduce the incentive for tank owners to report and clean up leaks, and thereby undermine the program's goal of protecting the environment and public health. However, consultants to the Environmental Protection Agency have found that the quality of cleanup programs can be independent of reimbursement programs. Most notably, Maryland provides no state funds to reimburse tank owners, yet along with Minnesota has one of the nation's most efficient and effective cleanup programs.[1]

# ADMINISTRATIVE CHANGES

The Petroboard has acknowledged that it has been unable to carefully review or keep up with the volume of reimbursement claims it has received over the past two years. Claimants now must wait six months for their applications to reach the board, plus another 4 to 5 months after the Petroboard approves payment. Staff currently spend considerable time preparing typewritten, two-page summaries of claims for case-by-case review by the Petroboard.

**Staff, not the Petroboard, should handle routine claims.**

In general, we found that the Petroboard spends too much time on the details of claims payment. By delegating much of this activity, the board could spend more time developing rules and policies. This would further expedite claims processing and is the current practice in most of the states we surveyed.

To reduce payment delays and increase productivity in the future, we recommend that:

- **The Legislature should amend *Minn. Stat.* §115C.09 to require the Petroboard to delegate authority to the executive director and staff to pay routine, uncontested claims.**

The Petroboard could continue to hear appeals from dissatisfied claimants and could decide on payment of claims over a certain dollar amount such as $75,000. A review of board minutes suggests that these would amount to about 35 to 50 claims per meeting.

Staff have generally requested more guidance in making payment recommendations, and we suggest that the Petroboard should turn its attention to this outstanding need in the future. If board members were allowed to delegate routine claims to the executive director and staff, as we recommend, they would have time to develop such guidelines. Also, they could spend more

1 Environomics, *Analysis of the Benefits and Costs of Rapid Response for LUST (Leaking Underground Storage Tank) Corrective Actions* (Bethesda, Maryland: May 1992 draft), 4.

time on recurrent issues which have complicated reimbursement decisions in the past.

**The Petrofund law should be amended.**

We understand that board counsel has informed the Pollution Control Agency and Petroboard staff of several fundamental areas of uncertainty, and we think the board should address these soon if the program is to continue for any length of time. Most important: What is petroleum? Currently, the definition in the Petrofund law is overly broad, and counsel has suggested using the definition in *Minn. Stat.* §296.01 instead.[2] Also, counsel has identified needs for (1) explicit authority to reduce reimbursement to any type of applicant and (2) mechanisms to comply with the new law that requires the board to register and possibly discipline contractors.

By limiting the Petroboard's direct involvement in payment decisions, the delegation of authority would also reduce the potential for conflicts of interest between claimants and board members, some of whom represent the petroleum industry. To reduce this potential even more, the Legislature could change the board to an advisory group, as in Wisconsin, or entirely reconstitute it. Board counsel has pointed out that some degree of financial interest is now built into the Petroboard's structure.

To facilitate the delegation of authority to staff:

- **The Petroboard should adopt a standard schedule of prices for reimbursement of specific cleanup services.**

Formal price guidelines would provide a basis for staff reimbursement decisions and could help to reduce expenses to the Petrofund by strongly encouraging tank owners to select economical contractors. Some other states have already implemented this method of cost control using their own and national data. In our opinion, the rules should allow for exceptions but limit these as much as possible.

Although the Legislature mandated a study of cleanup costs for consideration in 1993, the study was performed by an active cleanup contractor, and some data entry services were donated by a petroleum industry association.[3] Because these parties were not totally disinterested in the results, we think the study's price estimates should be carefully reviewed, especially if they are used to determine future Petrofund payments.

Further, we recommend that:

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2 Memo from Prentiss Cox, Office of the Attorney General, to Michael Kanner, Pollution Control Agency, November 4, 1992.

3 *Minn. Laws* (1992), Ch. 490, Section 12, requires the Commissioners of the Pollution Control Agency and Department of Commerce to determine reasonable charges for consulting, contracting, and disposal services.

- **The Legislature should appropriate sufficient money from the Petrofund to allow the Department of Commerce to audit and process claims efficiently.**

We realize that the Department of Commerce might prefer to transfer the program to the Pollution Control Agency. We also realize that the Petrofund reimbursement program could be housed in an entirely different department such as Revenue or Finance. However, we see no clear advantage from either type of reorganization. A move to the PCA would mean that one agency would regulate cleanups and also disburse funds. Although the agency already plays this dual role in other areas, such as waste water treatment, the expected benefits of an organizational change would be slight. There would be no apparent reduction in overall personnel since the two programs involve separate staff and distinctly different activities. Our study indicated that one of the main reasons for current inefficiencies is a lack of resources, which would apply to any agency. In addition, a move would cause new strains and disruptions at a time when staff are already far behind in processing claims and the Legislature is shaping the program's future. Also, if the program is phased down as we recommend, an organizational change might not be worth the trouble.

**The Petrofund not only needs more resources but renewed attention.**

Wherever the Petrofund is located, we think it needs additional resources and renewed attention. At a minimum, we suggest hiring at least one auditor, installing an automated claims processing system, and adding staff with technical expertise in claims management, insurance, and statistics. The cost of an auditor probably would be offset by savings from investigating and detecting false and fraudulent charges. An automated claims processing system would not only reduce the backlog but ensure that each application receives the same level of attention. It could also be designed to produce useful information concerning the range of prices for contractor services. If specific charges were statistically high, they could systematically be reduced with measurable savings.

In addition, the reimbursement program requires more than two claims analysts, particularly since they have other responsibilities. These could be state employees or third-party administrators, who have been used successfully in some nearby states. In retrospect, it would have been a good idea to consider a third-party administrator at the program's inception. At this point in time, an outside administrator might still be useful, but we suggest that the Department of Commerce study its own and other resources, and then prepare an appropriate request for the Legislature's consideration.

Currently, claims analysts at the Department of Commerce spend a lot of time correcting errors and filling in missing information on poorly documented reimbursement claims. Staff needs to find ways to minimize this time. For example, they should review their 14-page claim form and take steps to correct the most common sources of error. Also, they should return substantially incomplete or undocumented claims, placing the burden back on tank owners who apply for reimbursement.

We also think that the state agency which is responsible for the Petrofund should provide convenient access to Petroboard minutes, agendas, and related materials, for a fee if necessary. We do not think it is appropriate for a board member to sell access to such documents, although the practice has relieved the Department of Commerce of some work in the past.

Finally, we recommend that:

- **The Petroboard should develop a clear set of criteria for reimbursement, including price guidelines, and disseminate the information to all tank owners as soon as they report leaks to the Pollution Control Agency.**

The criteria could be added to the standard information packet that the Pollution Control Agency sends to tank owners after they call to report leaks. Currently, the agency outlines the general requirements for cleaning up leaks and gives only a little information on reimbursement. We think the added cost to mail specific reimbursement information would be more than covered by a reduction in the number of incomplete reimbursement applications that tank owners later submit.

# SUMMARY

Overall, we think the petroleum storage tank cleanup program has been beneficial to the state. However, its success has exceeded the resources available to the Petrofund reimbursement program. Legislators expanded the program but did not provide commensurate revenues or resources to adequately support the changes. We hope that this report helps policy makers decide what to do about the program's current problems.

OFFICE OF THE COMMISSIONER

# STATE OF MINNESOTA

DEPARTMENT OF COMMERCE

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January 15, 1993

James R. Nobles
State of Minnesota
Office of the Legislative Auditor
Program Evaluation Division
Centennial Office Building
658 Cedar Street
St. Paul, Minnesota 55155

Dear Mr. Nobles:

The Commissioner and the Commerce PetroFund staff appreciate the effort which went into the preparation of the evaluation of the PetroFund for Leaking Storage Tanks and the recommendations set forth therein.

We concur with the report's findings and conclusions and would like to emphasize that many of the same problems and recommendations were set forth in a report prepared by the PCA and the Department of Commerce in 1992.

We are supportive of the recommendations for administrative change particularly that the "Petro Board should promulgate a standard schedule of prices for reimbursement of specific cleanup services" and that PetroFund staff resources should include an automated claims processing system and some staff with technical expertise in claims management, insurance and statistics. We would like to point out, however, that the first recommendation regarding the standard fee schedule cannot be implemented without additional staff who can provide technical expertise in developing such a schedule

As to the significant problem of the PetroFund deficit, the most effective solution and the simplest to implement is an increase in the wholesale petroleum fee. Of course other funding mechanisms can and should continue to be explored. In regard to the other substantive changes recommended in the report, the staff is eager to provide information, input and technical expertise to the legislature as it develops long term proposals for increasing revenues and/or limiting the scope of the program. However, we feel that it is premature at this time to endorse any particular recommendation for refocusing and limiting the program.

Sincerely yours,

Bert J. McKasy

BERT J. MCKASY
Commissioner of Commerce

BJM/da

# Minnesota Pollution Control Agency

January 15, 1993

Mr. James R. Nobles
Office of the Legislative Auditor
Centennial Office Building, First Floor
658 Cedar Street
St. Paul, Minnesota 55155

Dear Mr. Nobles:

Thank you for the opportunity to review the report, "Petrofund Reimbursement for Leaking Storage Tanks." The report was very well done by your staff; the questions, findings and recommendations were very thorough and thoughtful. Our comments are as follows:

1. We strongly support your recommendation for the need for additional staff at the Department of Commerce to administer the Petrofund.

2. We also agree with your recommendation regarding an increase to a 2 cents per gallon fee to support the reimbursement program.

3. We think that the report should place greater emphasis on the point that very major future costs will include long-term operation and maintenance of instituted cleanups, as well as for expensive orphan sites.

4. We agree that we need to closely review the work that Terracon is doing for the Petro Board, Commerce and the Minnesota Pollution Control Agency (MPCA) regarding costs since Terracon is not a disinterested party. This has always been our intent.

5. Your analysis regarding sunsetting the fund, reinstating deductibles and making certain owners of tanks ineligible or less eligible for reimbursement is a good one for discussions by legislative policy makers. However, we recommend that it be augmented by the following comments so as to provide more of the pluses and minuses associated with each recommendation:

   a. For example, the report discusses sunsetting the reimbursement program in 1998. This is a good idea from a cost control point of view. However, leaks will continue to be discovered from old tanks and new leaks will occur from the new generation of better tanks. It remains to be seen whether insurance companies will re-enter the tank market in place of the Petrofund. Many companies may be unwilling or unable to do cleanup without the assistance of a Petrofund or insurance. An alternate to sunsetting might be to reduce the fee back to 1¢ a gallon in 1998 (assuming it is soon raised to 2¢) to cover the continued but lesser need for the Petrofund then.

b. Reinstating deductibles or providing reimbursement at less than the current 90 percent rate is a similar situation. This works to cut costs, but inability or unwillingness to cleanup by tank owners would likely be a major result.

c. Our biggest concern is with the possibility of making certain categories of tank owners ineligible for reimbursement or at a lesser rate than others (i.e. major marketers or those more financially able; aboveground, residential and farm tanks; or these which are lower priorities as regards environmental impact). We offer the following thoughts. Major marketers pay most of the fee, they also can be very difficult to work with when the carrot is not there and they are instead in an enforcement mode. Determining who is financially unable to do cleanup without reimbursement would be very difficult and if done on a case by case basis would be an extremely difficult and time consuming task. Aboveground tanks, residential and farm tanks cause the same problems that other tanks cause. We often do not know at first which tanks are the ones causing the greatest problems.

   We believe that the current all-inclusive universe causes the greatest cooperation and cleanup, and that enforcement and fund financed cleanups of huge numbers of sites would otherwise result and would create an untenable situation, counterproductive to the goals of the Petrofund legislation.

However, if a major change occurs in the reimbursement program it would probably be fairest if it took effect sometime in the future and with adequate notice so that persons who began cleanups based upon what the law now says will not feel unjustly treated.

Once again, thank you for this opportunity to review the report.

Sincerely,

Charles W. Williams
Commissioner

CWW:smm

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