

GAO

Report to the Congress

October 1987

HAZARDOUS WASTE

Issues Surrounding Insurance Availability





United States
General Accounting Office
Washington, D.C. 20548

Comptroller General
of the United States

B-224651

October 16, 1987

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

During the 1985-86 Superfund reauthorization process in the Congress, concerns were raised about the availability of pollution insurance. The Superfund Amendments and Reauthorization Act of 1986 directed that we determine the availability of insurance for individuals who may be liable for releases of hazardous substances into the environment. This report represents our analysis of this issue and discusses

- the current economic conditions in, and the outlook for, the pollution insurance market;
- effects on this market caused by trends in statutory and common law remedies and judicial interpretation of pollution insurance policies; and
- the frequency and severity of pollution claims closed by the insurance industry in 1985.

Copies of this report are being sent to appropriate House and Senate Committees; the Administrator, Environmental Protection Agency; and other interested parties. Copies will also be made available to others upon request.

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

Charles A. Bowsher
Comptroller General
of the United States

Executive Summary

Purpose

Many of the companies that handle toxic substances do not have insurance for their pollution risks. This has raised concerns about the availability of funds for pollution cleanup and victim compensation.

In response to this concern, the Congress mandated—in the Superfund Amendments and Reauthorization Act of 1986—that GAO determine the availability of insurance for individuals who may be liable for releases of hazardous substances into the environment. GAO was asked to examine the economic condition and outlook for the pollution insurance market, trends in statutory and common law remedies and the interpretation of insurance policies, and the frequency and severity of pollution claims closed in 1985.

Background

The 1976 Resource Conservation and Recovery Act (RCRA) sets standards for the disposal of hazardous wastes and requires licensed disposal facilities to show that they are financially capable of paying at least some of the damages that might result from their activities. The 1980 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires parties responsible for conditions at the nation's worst hazardous waste sites to clean them up themselves or reimburse the government for cleaning them up. Persons suffering bodily injury or property damage have no legal remedies under federal law and must seek compensation through state courts.

Since the mid-1980s, most insurers have generally refrained from offering new insurance policies covering pollution-related damages. Insurers cite several reasons for withdrawing from the pollution market. Primarily, they contend that environmental legislation, as well as recent trends in common law and court interpretations of environmental law, have broadened their liability for pollution coverage beyond what was intended under past policies. This, they maintain, has left them exposed to potentially enormous payments for claims presented under these past policies.

Results in Brief

Pollution liability insurance continues to be generally unavailable. Although more than 100,000 companies generate, handle, or dispose of hazardous substances, few of them have insurance for pollution risks. Companies that do not have such insurance are self-insuring or are attempting to form risk-sharing groups. The Environmental Protection Agency (EPA) has established minimum financial responsibility requirements under RCRA, including insurance, for facilities that treat, store, or

dispose of hazardous wastes (currently numbering about 4,000) but has not established similar requirements pursuant to CERCLA for other classes of facilities with pollution risks.

In examining recent court cases involving liability standards, GAO found that CERCLA liability standards for cleanup costs have been consistently upheld by the courts. The ability to obtain compensation by those claiming to be victims of pollution for bodily injury and property damage is less clear. Regarding court interpretations of insurance contracts, the extent to which insureds who have been held liable for damages can recover from their insurers varies, with no clear trend yet emerging.

GAO's survey of pollution claims closed in 1985 showed that insurers were generally not making high claims payments at that time. However, these claims are not necessarily indicative of the eventual magnitude of the insurance industry's pollution claims payments. Data on pollution claims closed after 1985 would be needed to establish trends in pollution claims payments. Currently, there is no central information source to capture data on all pollution claims.

Principal Findings

Insurance Availability

Only one insurance organization is actively marketing pollution insurance. A few hundred companies are insured under its policies. The maximum annual coverage that can be purchased is \$12.5 million. Several other insurance organizations provide limited-coverage pollution risk insurance.

EPA Financial Responsibility Requirements

As mandated by RCRA, EPA established minimum financial responsibility requirements for facilities that treat, store, and dispose of hazardous wastes. These regulations were intended to ensure that firms have adequate financial resources to pay for cleaning up hazardous substance releases and compensating victims for bodily injury and property damage. CERCLA required EPA to develop similar financial responsibility requirements for certain facilities (which could include manufacturing locations that handle hazardous substances) not covered by RCRA or other federal law. Many of these companies are now without pollution insurance. As yet, EPA has not developed the minimal level of financial

responsibility for companies subject to pollution liability and has no timetable for doing so in the future.

Liability for Cleanup and Compensation

Courts have consistently ruled that insureds are liable for cleanup costs. However, pollution victims suffering bodily injury or property damage must seek compensation under various state statutes and common law. A significant change has been the willingness of some courts to permit recovery on new theories and types of evidence, or on theories and evidence which had earlier been rejected. While pollution victims have generally found it difficult to receive compensation, some courts have made awards in their favor. However states are enacting laws that may limit a victim's ability to obtain compensation.

Judicial Trends in Insurance Contract Interpretations

GAO found that court decisions regarding the interpretation of insurance contract coverage sometimes favored the insurer and sometimes the insured, with no clear trend emerging. Court decisions so far, however, do give insurers a basis on which to draft certain pollution liability policy provisions that may help reduce variability in such judicial interpretations in the future.

Pollution Claims Closed in 1985

Because there is no central source of information on pollution claims, GAO sent claims questionnaires to all U.S. insurance companies it could identify that wrote or may have written pollution insurance. Of the 104 contacted, 75 responded that they closed 382 pollution claims with payment in 1985. Fifty of them also reported that they had about 11,900 pollution claims unresolved at the end of 1985. Of the 382 claims closed, insurers provided cost information on 200. Payments totaled about \$6.6 million; the average payment was \$33,040 (the median payment was only \$5,000).

Insurers assert that pollution claims for 1985 mainly represent closures on easily resolved claims involving relatively small settlements and therefore are not indicative of the extent of their liability. They contend that most pollution claims have yet to be resolved or even presented and that these could involve much larger payments. Data on post-1985 claim payments not now available are needed in order to assess the extent of future claim payments.

Recommendation

Given the likelihood that most companies involved with hazardous substances may not obtain pollution insurance to cover their risks, it is critical that EPA develop and implement the financial responsibility regulations mandated by the Congress in the 1980 CERCLA. Because EPA has set no time frames for developing these regulations, GAO recommends that the Administrator, EPA, establish specific milestones leading to the timely implementation of financial responsibility regulations for risks associated with classes of facilities covered by CERCLA.

Matter for Congressional Consideration

Determining the amounts that insurers are paying for CERCLA cleanups and related third-party bodily injury and property damage is difficult because the insurance industry does not have centralized, comprehensive data on these indemnity payments. Given this situation, GAO believes that the Congress should consider requiring insurers or responsible parties, as appropriate, to report to EPA the amounts of indemnity payments made to cover pollution cleanups and related third-party bodily injury and property damage.

Agency and Industry Comments

EPA stated that the report accurately described the hazardous waste insurance problem and concurred with the appropriateness of the recommendation and matter for congressional consideration. The views of responsible officials representing state insurance regulators; insurers; persons who generate, store, treat, or dispose of hazardous substances; persons harmed by the release of hazardous substances; and consumer groups were also obtained during GAO's work and are incorporated in this report where appropriate.

Contents

Executive Summary		2
Chapter 1		10
Introduction		10
	Legislative Responses to Pollution Risks	10
	Evolution of Pollution Insurance	11
	Controversy Over Causes of the Pollution Insurance Problem	12
	Congress Mandates Insurance Studies	13
	Objective, Scope, and Methodology	14
Chapter 2		17
Limited Availability of Pollution Insurance		17
	The Insurance Industry and Pollution Insurance	17
	Current Pollution Insurance Providers	20
	Outlook for the Supply of Pollution Insurance Is Uncertain	23
	Summary	26
	Agency Comments	27
Chapter 3		28
EPA Needs to Develop Additional Financial Responsibility Requirements for Those With Potential Pollution Releases		28
	Insurance for TSDFs	28
	Insurance for Generators	29
	Insurance for Innovators of Waste-Reduction Technologies	31
	Financial Responsibility Tests as an Alternative to Insurance	33
	Conclusions	36
	Recommendation to the Administrator, EPA	36
Chapter 4		37
Legal Liability Standards and Remedies for Cleanup and Compensation		37
	Liability Standards and Remedies Under CERCLA	38
	Effect of CERCLA Liability Standards on Insurability and Standards of Care	39
	Bodily Injury and Property Damage Remedies Under State Law	42
	Conclusions	52

<hr/>		
Chapter 5		54
Judicial Trends in the Interpretation of Insurance Contracts	The Development of Pollution Insurance A Legal Perspective	55
	Court Interpretations of Contracts in Pollution Insurance Cases	55
	Environmental Liability Insurance	69
	Changes in Contract Language May Make Liability More Predictable	70
	Conclusions	72
<hr/>		
Chapter 6		74
Frequency and Severity of Pollution Claims Closed During 1985	Data-Gathering Methodology	74
	Frequency of 1985 Pollution Claims	75
	Severity of 1985 Closed Pollution Claims	76
	Limitations of Survey Results	80
	Potential Usefulness of Additional Data on Pollution Claims	82
	Conclusions	83
	Matter for Consideration by the Congress	84
<hr/>		
Appendixes	Appendix I Section 208 of SARA	86
	Appendix II. Objective, Scope, and Methodology	87
	Appendix III. Frequency and Severity Questionnaires	93
	Appendix IV. Major Contributors to This Report	96
<hr/>		
Tables	Table 1 1: Items to Be Evaluated Under SARA Section 208	14
	Table 2.1 Combined After-Tax Gains for the Property/Casualty Insurance Industry by Year, 1976-85	19
	Table 3 1: RCRA Third-Party Liability Requirements for TSDFs	34
	Table 4.1 Tort Reforms Enacted in 1986 and 1987	51
	Table 6.1. Frequency of 1985 Pollution Claims for 75 Responding Insurers	75
	Table 6.2. 1985 Pollution Claims Activity of 75 Responding Insurers	76
	Table 6.3 Distribution of Indemnity Payments According to Insureds' Activity	77
	Table 6.4. Distribution of Indemnity Payments According to Primary Nature of Incident	78
	Table 6 5. Distribution of Indemnity Payments by Purpose	78

Figure

Figure 6.1: The "Tail" on 117 Pollution Claims Closed in 1985

Abbreviations

AIA	American Insurance Association
AIG	American International Group
CBO	Congressional Budget Office
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CGL	comprehensive general liability
CMA	Chemical Manufacturers Association
DES	diethylstilbestrol
EIL	environmental impairment liability
EPA	Environmental Protection Agency
EPIC	Environmental Protection Insurance Company
GAO	General Accounting Office
GGD	General Government Division
HRD	Human Resources Division
IELA	Insurance Environmental Litigation Association
ISO	Insurance Services Office
NACC	North American Casualty Cooperative
OTA	Office of Technology Assessment
PLIA	Pollution Liability Insurance Association
RCED	Resources, Community, and Economic Development Division
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SITE	Superfund Innovative Technology Evaluation
TSDI	treatment, storage and disposal facility
WILL	Waste Insurance Liability Limited

BLANK PAGE

Introduction

Many chemicals used in industrial processes—along with the products, byproducts, and wastes of these processes—pose deadly threats to human health if improperly released into the environment. This harm can be sudden, as with the release of deadly methyl isocyanate in Bhopal, India, or it can be gradual, as at Love Canal, New York, where chemical wastes slowly contaminated groundwater that leaked into basements of local residents. Along with the human suffering it can cause, pollution from hazardous chemical substances can result in multi-million-dollar liabilities arising from bodily injury, property damage, and environmental cleanup costs. Industries involved with hazardous substances need to be in a position to cover potential pollution liabilities while still maintaining their financial viability.

In past years, commercial insurance offered one means of covering part of the cost of such liability. More recently, however, the availability of pollution insurance has dwindled, raising the question of how well industries involved with hazardous materials can cover their pollution liability without such insurance. This report reviews the current availability of pollution insurance, the possible causes of insurers' withdrawal from the pollution insurance market, and the outlook for increased availability of this insurance in the future. In addition, the report discusses the use of alternative methods of covering pollution liability, other than through traditional commercial insurance policies.

Legislative Responses to Pollution Risks

The risks involved with hazardous substances were dramatized by incidents in the 1970s involving the chemical contamination of drinking water, beef cattle, and milk. In 1972, for example, unsafe levels of the toxic chemical hexachlorobenzene were discovered in beef from a Louisiana cattle ranch. The chemical was apparently being spread from a nearby waste disposal site by air currents. Testing of local residents showed that they had high levels of this chemical in their blood.

In 1987, the Environmental Protection Agency (EPA) estimated that about 100,000 companies generated hazardous substances. Seventy-one percent of these wastes come from the chemical and petroleum industries, and the remainder from a wide range of other industries including metal finishing, general manufacturing, and transportation. The Congress took major steps in dealing with chemical pollution problems by passing the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). Both of these laws include pollution liability provisions.

RCRA requires EPA to promulgate regulations to control the nation's hazardous chemical wastes from their generation to their final disposal. Among EPA's RCRA regulations are requirements that owners and operators of the nation's hazardous waste treatment, storage, and disposal facilities (TSDFs) demonstrate financial responsibility for bodily injury and property damage to third parties caused by pollution incidents. EPA has identified about 4,000 TSDFs that are currently operating RCRA facilities available to handle hazardous wastes.

Under RCRA regulations, TSDF owners and operators must maintain liability coverage for sudden and accidental pollution incidents of at least \$1 million per occurrence with an annual aggregate of at least \$2 million, excluding legal defense costs. Owners and operators of surface impoundment,¹ landfill, or land treatment facilities must also maintain liability coverage for gradual ("nonsudden") pollution incidents of at least \$3 million per occurrence, with an annual aggregate of at least \$6 million, excluding legal defense costs. Liability coverage may be demonstrated in one of several ways: (1) by having liability insurance, (2) by passing a financial test, (3) by providing a corporate guarantee, (4) by using a combination of the financial test and insurance, or (5) by using a combination of a corporate guarantee and insurance. These options are discussed further in chapter 3.

CERCLA, more commonly known as Superfund, addresses the need to clean up the nation's worst hazardous waste sites. Under CERCLA, parties that contributed to the dangerous conditions at these waste sites are held liable for the cost of their cleanup. We have estimated that the number of sites needing cleanup could eventually grow from the current 951 to over 4,000, cost as much as \$80 billion, and take until the year 2017 to complete.²

Evolution of Pollution Insurance

Prior to the 1970s, the insurance industry provided coverage for a broad range of commercial liability due to accidental personal injury or property damage—which might have included pollution incidents—under comprehensive general liability (CGL) policies. Following increased awareness of the financial liabilities associated with pollution incidents, the insurance industry in the late 1960s began an ongoing process of revising, redefining, and limiting policy language that might apply to

¹An open pond or lagoon in which liquid or semisolid wastes are stored.

²This estimate is in 1983 dollars. See Cleaning Up Hazardous Wastes: An Overview of Superfund Reauthorization Issues (GAO/RCED-85-69, March 20, 1985).

pollution damages. For example, a "pollution exclusion" clause was added to the standard CGL policy to specify that the policy covered only sudden and accidental pollution incidents. During the 1970s, some insurers developed entirely separate Environmental Impairment Liability (EIL) policies specifically to cover pollution risks. When RCRA financial responsibility requirements specified that liability coverage must include both sudden and gradual pollution, the insurance industry developed a standard form claims-made pollution liability insurance policy.³ By 1986, two new standard form CGL policies had been created: claims-made and occurrence CGL policies. These policies imposed aggregate dollar limits, as well as per-occurrence limits, and provided coverage for pollution damages only through separate endorsements ("coverage parts").

Controversy Over Causes of the Pollution Insurance Problem

Despite such policy revisions, by the mid-1980s many major property/casualty insurers were maintaining that the combination of the inherent risks associated with pollution (such as long-latency diseases), judicial decisions involving liability standards and insurance contract coverage, and broad liability established by federal environmental laws made pollution exposures uninsurable.

Insurers maintain that basic concerns of underwriting⁴ a risk—the fortuity of occurrence and predictability of loss—cannot be satisfied when dealing with pollution risks, thereby making these risks uninsurable. Specifically, they maintain that from a technical standpoint, leakage at hazardous waste sites is a virtual certainty and therefore not a fortuitous, insurable event. They also maintain that expanded legal liability standards have made the extent of losses from pollution incidents unpredictable because an insurer may have to pay for damages not caused by the insured party. Adding to these concerns is the insurers' dismay over what they maintain are misinterpretations by courts of coverage provisions of insurance policies. They believe that such adverse court decisions have obliged them to pay claims for incidents that their policies did not cover and for which they collected no premiums. As a result, insurers believe, they are faced with enormous potential liability for hazardous waste site cleanups under CERCLA, along with

³Under an occurrence based policy, the incident giving rise to the claim must occur during the policy period, but the claim can be filed after the policy period has elapsed, even though many years may have passed. Under a claims made policy, the claim must generally be filed during the term of the policy.

⁴Underwriting is the process of identifying and evaluating risks and setting the premium to be charged for risks accepted by the insurer.

other pollution incidents. They maintain that given this potential for losses, the effects of CERCLA liability standards and court interpretations of contract coverage provisions could place a severe strain on their financial capacity to write property/casualty insurance in the future.

The insurers' positions regarding the legal system and environmental law have been contested by critics of the insurance industry. These critics maintain that recent problems in the commercial liability insurance industry, such as the sharp downturn in profits in the mid-1980s and consequent affordability and availability problems, are due mainly to the insurers' own business practices, rather than to legal factors. For example, they maintain that record high interest rates in the early 1980s led insurers to charge inadequate premiums and underwrite poor risks in order to attract premium dollars, which could be invested at high interest rates ("cash flow underwriting"). Some critics further maintain that insurers are using their recent financial difficulties to justify changes in the legal system that would, in effect, limit future insurance claims losses by limiting the ability of plaintiffs to recover damages through lawsuits. They note that insurers made a similar plea for legal reform during the previous "insurance crisis" in the mid-1970s.

Congress Mandates Insurance Studies

This controversy over the causes of the contraction in the availability of pollution insurance was aired during the 1985-86 Superfund reauthorization process. The Congress heard conflicting testimony from the insurance industry and its critics on basic issues related to the financial performance of the insurance industry, current trends in judicial decisions on liability standards and contract interpretation, and other alleged impediments to pollution insurance. In the end, insurers were unable to convince the Congress that changes in CERCLA's liability standards were needed, and the 1986 Superfund Amendments and Reauthorization Act (SARA) was passed with little change to the 1980 CERCLA liability standards.⁶

In passing SARA, however, the Congress directed GAO to review four key issues associated with insurance for handlers of hazardous substances:

- The liability of those who clean up hazardous waste sites.
- The liability of those associated with hazardous waste sites after their closure.

⁶SARA did, however, generally allow EPA to indemnify CERCLA cleanup contractors for certain liabilities if they could demonstrate that insurance was unavailable to them.

- The liability of those responsible for underground petroleum storage tanks
- The availability of insurance for individuals who may be liable for the release of hazardous substances into the environment.⁶

This report addresses the fourth issue, found in SARA section 208. The other issues will be the subjects of future GAO reports. In addition to this work on environmental insurance, GAO reported in May 1986 on issues surrounding environmental restoration insurance issues facing the trucking industry.⁷

Objective, Scope, and Methodology

The objective of this report is to provide the Congress with the study mandated by SARA section 208 on the availability of insurance for persons who generate or handle hazardous substances, and the effects of liability on their standards of care with regard to these substances.

Section 208 delineated the scope of our study. This section directed us to review eight interrelated economic and legal issues regarding the availability of pollution insurance. Table 1.1 lists these items in abbreviated form and indicates where they are discussed (See app. I for the full legislative language and app. II for a detailed discussion of our objective, scope, and methodology.)

Table 1.1: Items to Be Evaluated Under SARA Section 208

Item	Where discussed
A Current/future conditions for commercial insurance	Chapters 2, 3
B Current trends in statutory and common law remedies	Chapter 4
C Impact of changes in liability standards on statutory and common law remedies	Chapter 4
D Effect of liability standards on the protection of the environment and availability of insurance	Chapters 2, 3, 4
E Current trends in the judicial interpretation of insurance contracts	Chapter 5
F Frequency and severity of pollution claims closed during 1985	Chapter 6
G Other impediments to acquisition of liability insurance	Chapters 2, 3
H Effects of liability standards and financial responsibility requirements on the development of innovative waste reduction technologies	Chapters 3, 4

⁶In addition to these four insurance studies, SARA directed GAO to perform two others. One pertaining to Superfund work force issues will be issued in the fall of 1987 (GAO/RCED-88-1) and the other, to be performed in the future, concerns SARA's toxic chemical release provisions.

⁷Motor Carriers: The Availability of Environmental Restoration Insurance (GAO/RCED-86-150BR, May 19, 1986)

As directed by section 208, we consulted EPA officials, state insurance regulators, insurance industry officials; persons who generate, store, treat, or dispose of hazardous substances, persons harmed by the release of hazardous substances, and consumer groups. In addition to our individual interviews, we invited representatives from these groups to participate in a conference we convened in February 1987 to discuss our study's issues and audit methodology. We also made a draft of this report available to the representatives. We discussed the draft with them and incorporated their comments throughout the report where appropriate.

Our analysis was based on extensive interviews on the condition of the pollution insurance market with insurers, state insurance regulators, generators and disposers of hazardous waste, EPA, and state RCRA program officials. Because many of the financial data needed to perform this study are proprietary or unavailable in any readily accessible form, we relied on the voluntary cooperation of the insurance and hazardous substances industries to provide us with relevant information. We discussed pollution insurance issues with 12 insurance companies, 3 insurance brokerage firms, and 4 insurance trade associations. We also contacted five reinsurance companies, a reinsurance broker, and a reinsurance trade association. To obtain the perspective of the hazardous substance industry we spoke with 5 generators, 11 TSDFs, and 6 associations representing industries with potential pollution risks. In addition, we discussed insurance regulatory issues with nine state insurance commissioners and a Washington-based consumer organization dealing with insurance.

We also reviewed industry data from A. M. Best, a leading source for data on the insurance industry. Most of this information, however, deals with the general condition of property/casualty insurance, of which pollution insurance is a small part. We found no industry-wide quantitative data on pollution insurance alone. We therefore attempted to gather information and data on pollution insurance through reports in the insurance trade press, congressional testimony, and articles and analyses by insurers, consumer groups, and others. We also obtained data on the frequency and severity of pollution insurance claims closed during 1985 by means of questionnaires that we sent to 104 property/casualty insurance organizations.

Our legal work involved a review of CERCLA and its 1986 amendments under SARA, as well as case law for liability standards applied under CERCLA, as amended. We researched state statutes and common law

causes of action and remedies for injury and damage caused by pollution. We also reviewed legislative changes to tort law to determine the impact of possible changes in traditional standards of liability on the ability of persons harmed by hazardous waste to obtain remedies for their injuries.

Our review of trends in court interpretations of insurance contracts involved examining relevant case law and legal articles on this issue, as well as the development of comprehensive general liability and pollution liability insurance contracts over recent decades. We also discussed with members of the Insurance Environmental Litigation Association, and others, the possible impact of changes in pollution insurance contract language.⁸

Our review was conducted between October 1986 and August 1987 and was performed in accordance with generally accepted government auditing standards. We sent a draft of this report to EPA for formal comment.

⁸The Insurance Environmental Litigation Association is a trade association comprised of major property/casualty insurance companies. It was formed in part for the purpose of presenting the position of its members in environmentally related insurance law cases.

Limited Availability of Pollution Insurance

Few insurance companies are currently offering pollution insurance. According to insurance industry officials, the uncertainties created by potentially enormous claim payments and unfavorable legal trends have led most of the insurance industry to perceive pollution as an uninsurable risk. The near-term outlook for increased availability of pollution insurance does not appear favorable, and many insurers indicate that they may never offer pollution insurance.

We identified only one insurer that actively seeks to insure pollution risks. We also identified a few insurers that, as an accommodation, provide pollution insurance to selected clients who carry coverage by the insurer for other risks. However, the amount of coverage they offer is limited, expensive, and may be available to only relatively low-risk operations. In addition, we identified five participant-owned and -operated risk pools that provide insurance for catastrophic general liability losses and currently include coverage for sudden pollution releases but not gradual releases.

We also identified two new risk pools that are being formed as an option to traditional insurance. Like the risk pools that provide catastrophic insurance, these new risk pools will be participant-owned and -operated. They will offer only pollution insurance and will cover both sudden and gradual releases. Because these groups are still in the formative stages, however, it is too early to assess their effectiveness in meeting the insurance needs of their members and filling the void created by the general lack of pollution insurance available from the insurance industry.

The Insurance Industry and Pollution Insurance

Property/casualty insurance comprises about half of insurance industry premiums. Life insurance and health insurance account for the remainder. Property/casualty insurance includes, among other things, workers' compensation, homeowner, and auto insurance, as well as specialty insurance lines such as Environmental Impairment Liability (EIL) insurance. The insurance industry wrote about \$154.3 billion in direct premiums in 1985 for property/casualty insurance. We estimate that less than one-half of one percent (about \$65 million) of those premiums were written for EIL insurance.

We have completed several studies addressing key aspects of the insurance industry. In July 1987 we reported on the profitability of the property/casualty insurance industry.¹ Profitability in the insurance industry is determined by combining both underwriting and investment results. We found that despite incurring substantial underwriting losses over the 10-year period 1976 through 1985, the property/casualty insurance industry more than offset those aggregate losses with investment gains. We estimated that the industry had about \$81 billion in after-tax income during that period. The insurance industry disagreed with our profitability estimate of \$81 billion—its method of calculation showed \$54 billion. However, even the lower estimate shows that the industry's average rate of return on net worth has not been out of line with those of other industries.

As we noted in a 1986 report that examined the cyclical nature of the property/casualty insurance industry, the most recent loss cycle was more protracted in duration than usual, with underwriting losses resulting every year since 1980.² The continuation of the industry's underwriting losses was exacerbated by the industry's cash flow underwriting pricing strategy, which relied upon investment income to overcome underwriting losses. Basically, companies were willing to accept lower premiums for certain insurance lines in order to encourage sales and obtain funds for investment. This strategy changed, however, as underwriting losses became unacceptably high.

Table 2.1 illustrates the most recent cycles in underwriting gains and losses, investment gains and losses, and profitability for property/casualty insurance from 1976 through 1985. As indicated in our July 1987 report, the most recent underwriting cycle peaked in 1978, then declined until it bottomed out in 1985 when the industry experienced record underwriting losses. The industry had after-tax profits, however, because of gains on investments during that same period. The Insurance Information Institute has reported that property/casualty insurance earnings improved substantially in 1986.³ On the basis of those data, we estimated that the after-tax net gain for property/casualty insurance increased from \$9.7 billion in 1985 to about \$17 billion in 1986. (On the

¹Insurance Profitability of the Medical Malpractice and General Liability Lines (GAO/GGD-87-67, July 13, 1987)

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

³The Insurance Information Institute is an organization sponsored by the insurance industry to provide information to the public and the Congress.

basis of the industry's method of calculation, the industry's after-tax income increased from \$1.9 billion in 1985 to \$12.7 billion in 1986.)

Table 2.1: Combined After-Tax Gains for the Property/Casualty Insurance Industry by Year, 1976-85

(in billions of dollars)

Year	Underwriting gains (losses) ^a	Investment gains (losses) ^b	Pre-tax total	Federal income tax ^c	After-tax total
1976	(\$1.7)	\$7.2	\$5.4	\$0.1	\$5.3
1977	1.9	5.1	7.0	1.0	6.0
1978	2.5	7.8	10.3	1.4	8.9
1979	•	11.6	11.6	0.9	10.7
1980	(1.7)	15.9	14.2	0.6	13.6
1981	(4.5)	10.9	6.4	0.1	6.3
1982	(8.3)	18.4	10.1	(0.7)	10.8
1983	(11.1)	19.4	8.4	(1.2)	9.6
1984	(19.4)	17.9	(1.5)	(1.7)	0.2
1985	(22.6)	30.2	7.6	(2.0)	9.7
1976-85	(\$64.8)	\$144.3	\$79.5	(\$1.6)	\$81.1

Note: The data in this table are computed on a consolidated basis to eliminate double counting by excluding intercompany transactions between parent and subsidiary companies. Also, tables may not add up due to rounding of numbers.

^aNet premiums earned minus losses and expenses. These results are based on undiscounted reserves.

^bNet investment income plus realized and unrealized capital gains.

^cNegative federal income tax occurs because companies report losses for tax purposes and consequently generate negative income taxes. Negative income taxes can be applied to past taxes paid, which generate refunds or are carried forward to apply against future tax liabilities.

Source: Insurance, Profitability of the Medical Malpractice and General Liability Lines (GAO/GGD-87-67, July 13, 1987).

In regard to this table, trends in EIL insurance may differ from overall industry trends. The recovery in the insurance cycle that is indicated to have taken place probably does not reflect what has happened in the EIL market. Insurers tell us that this market has not made any significant recovery, although others argue that a broad market for EIL policies never really existed. Available estimates indicate that the 1984 annual premium volume for EIL insurance peaked at about \$65 million.⁴ We estimate that the 1986 premium volume was also about \$65 million. Although this does not appear to be a decline in nominal terms, it represents a decrease in total coverage offered, considering that rate increases, contractions of limits, and increases in deductibles occurred

⁴Because the insurance industry does not maintain data on pollution insurance separately, the data we present are estimates based on our discussions with insurance industry officials.

during this time period. Also, in 1984 and prior years, some sudden and accidental pollution releases were covered under CGL policies. By 1986, however, pollution coverage had been excluded from standard form CGL policies except by endorsement, according to insurance industry officials.

Current Pollution Insurance Providers

Today the supply of pollution insurance available to industries involved with hazardous substances is limited. We found only one supplier that actively markets pollution insurance: the American International Group (AIG). In addition, a number of other companies may occasionally write pollution insurance as an accommodation to their clients. One group that does this is the Pollution Liability Insurance Association (PLIA), a consortium of 18 insurance companies. Only two reinsurers of pollution insurance remain in the market. (Reinsurers are companies that assume, for a share of the premium, a portion of the potential liability risks that the insurance companies underwrite.)

American International Group

AIG, the principal current supplier of pollution insurance, is a holding company for approximately 110 member companies. American Home Assurance is the largest property/casualty insurance company within AIG and is the AIG member that underwrites pollution risks. AIG actively seeks to market pollution insurance. It is the only commercial insurance source we could identify that offers pollution insurance on a monoline basis (that is, without requiring the insured to carry any other AIG insurance).

AIG began writing EIL coverage in 1980 and wrote an estimated \$40 million in pollution premiums in 1986. Between 1980 and 1984, AIG offered policies with coverage up to \$20 million. Maximum coverage dropped to \$10 million in 1985 and 1986, which AIG officials attribute to a decline in the availability of reinsurance for pollution. Citing a gradual increase in reinsurance now available to them, the AIG officials we spoke with indicated that AIG recently raised its annual maximum policy limit to \$12.5 million, but noted that about half of the policies are at the RCRA liability requirement limit of \$6 million total annual coverage. These policies are written on a claims-made basis and provide gradual only, or gradual and sudden, pollution coverage.

According to its officials, AIG has the capacity to write more pollution insurance and would like to do so. They estimated that during the past year AIG approved 2,000 companies that applied for pollution insurance,

but only 400 companies took policies. The AIG officials thought that more companies did not take the offered coverage because perhaps the premium AIG wanted might have been higher than the companies were willing to pay or the coverage was narrower than what they were seeking to obtain.

AIG officials stated that a large portion of its policies are with hazardous waste treatment, storage, and disposal facilities (TSDFs) subject to RCRA regulations. AIG believes that certain types of pollution risks are assessable and insurable. The officials told us that a review of how the prospective insured manages a pollution risk is key to determining whether that risk is insured by AIG. The activities AIG covers include chemical manufacturing, mining, wastewater treatment, hazardous waste disposal, and petroleum storage terminals. However, AIG will not insure (1) older underground storage tanks because of difficulties regarding their structural integrity and (2) closed RCRA facilities because they are not actively managed.

AIG officials describe their initial entry into the pollution insurance market as cautious and attribute their successful participation to their history of adhering to very careful underwriting standards, including requiring detailed risk assessments and management assessments of each facility considered for coverage. They describe their competitors as underwriting pollution coverage less carefully, with insufficient emphasis on risk assessment and risk management.

Pollution Liability Insurance Association

PLIA is a consortium of insurance companies that reinsures the pollution business written by its members. PLIA was established in 1982 by a group of insurance companies that wanted to continue offering pollution coverage to their clients but were no longer able to obtain reinsurance for pollution policies. Each year PLIA's membership pool changes as insurance companies join and leave the group. Companies join PLIA if they have a need to offer pollution liability coverage to their clients and drop out if they do not. In 1984 PLIA's membership had reached 48 insurance companies that wrote \$2.4 million in pollution premiums. PLIA members wrote an estimated \$10 million in pollution premiums in 1985 and \$20 million in 1986.⁵ As of June 1987, PLIA membership was down to 18 companies. According to an association official, this reduction was due in part to PLIA's dropping 12 members that no longer met its financial standards.

⁵Data are not reported by individual member companies.

With the exception of pollution insurance for underground petroleum storage tanks, PLIA members do not market pollution insurance by itself.⁶ Rather, PLIA members, in general, offer pollution coverage as an accommodation to selected clients who carry coverage for other risks. As of July 1987, PLIA reported having about 150 such accommodation policies. The policy limits that PLIA offers are much lower than AIG's: \$1 million per occurrence and \$3 million annual aggregate. These limits meet the minimum RCRA liability coverage for sudden releases required for all TSDFs but not the minimum liability coverage for gradual releases that land disposal facilities are required to meet.

Just over half of PLIA's premium volume in 1986 came from policies on underground petroleum storage tanks. The PLIA underwriter who wrote the largest portion of the pollution policies on petroleum tanks stopped offering this coverage effective July 1, 1987, the tank owners are forming a risk retention group to provide for their future insurance needs.

Other Commercial Insurers

Representatives of major insurance industry trade associations and insurance brokers identified AIG and PLIA as the only important sources of pollution coverage among traditional insurance companies. They were unable to identify any other significant insurance industry suppliers, although some insurance companies we spoke with acknowledged writing pollution coverage to some extent now. However, their activity seems to be limited to either an accommodation to selected clients or continuation of a few older accounts. Citing the uncertainties created by potentially enormous claim payouts and unfavorable legal trends, the insurance industry representatives said most commercial insurers had withdrawn from the pollution insurance market and indicated they may never offer pollution insurance.

Reinsurance for Pollution Risks

Insurers spread the risks of insuring potential losses by selling a portion of those potential losses to reinsurers in exchange for a portion of the premium. As such, reinsurers play a key role in insurance availability to the extent that they are willing to reinsure particular risks. Currently, the availability of reinsurance for hazardous waste pollution risks appears to be limited, according to the five major reinsurers and the

⁶Petroleum is not subject to RCRA's financial regulations for TSDFs. EPA is developing specific financial regulations for petroleum underground storage tanks. Liability issues surrounding underground petroleum storage tanks will be addressed in a future GAO report.

reinsurance broker we spoke with. In the opinion of these representatives, reinsurance for pollution liability risks has declined sharply since 1984, when foreign reinsurers began leaving the market.

Neither could we obtain information on current reinsurance premium volume or rates for pollution risks. Simply identifying companies that currently write this business is difficult. We could identify only two companies that currently offer such reinsurance, and then only on a very selective basis: General Reinsurance Corporation and Munich American Reinsurance Company. We were told by industry representatives that quite a few other reinsurers may write this business on a selective basis but that the companies would not be willing to admit it because they would not want their other customers coming to them to reinsure pollution risks.

Outlook for the Supply of Pollution Insurance Is Uncertain

Although commercial insurers generally told us that they were unwilling to insure pollution liabilities, some coverage is available and sources outside the insurance industry are entering the market. In addition to the two industry sources (AIG and PLIA) that are currently offering pollution insurance, five risk pools that offer catastrophic insurance cover sudden pollution risks, and two risk-retention groups are entering the pollution market. However, it is not certain whether these kinds of insurance can meet the needs of those that handle hazardous substances.

The limited availability of adequate and affordable commercial pollution insurance has led generators and disposers to consider risk pooling as an alternative way of dealing with their pollution liability exposure. Both the catastrophic coverage pools already in operation, and the risk-retention groups that are in the process of forming, are member-owned and -operated insurance pools in which pollution liability risks are shared among the participants. It is precisely their potential for spreading the risk of individual generators and disposers that makes risk-retention groups a viable alternative to commercial pollution insurance. However, risk-retention groups targeting other areas, such as medical malpractice and product liability, have been slow to develop and have drawn criticism for not having sufficient capitalization to meet potential liabilities.

Risk Pools Provide Catastrophic Pollution Insurance

As mentioned earlier, insurers generally exclude pollution liability from their current CGL policies. However, some risk pools that provide excess general liability insurance (that is, coverage beyond the limits of normal primary coverage) include coverage for sudden pollution releases. Excess coverage is often referred to as catastrophic coverage because of the high level at which the coverage begins, usually above \$25 million or more in losses, and because of the quantity of coverage that can be purchased, up to \$140 million. This coverage extends to general liabilities not specifically excluded under the excess coverage agreement. Because excess coverage excludes gradual pollution releases, however, its usefulness to companies with potential gradual releases of hazardous substances, such as land disposal activities, is limited. Indeed, while there are more than 100,000 hazardous substance generators and about 4,000 TSDFS, the excess coverage pools that included pollution coverage had only about 678 participants as of March 1987.⁷

We identified five risk pools that include sudden pollution liability in the catastrophic coverage they provide. These pools, together with the approximate number of participants as of March 1987, are: ACE Insurance Company, Limited (300), Energy Insurance Mutual (28), PRIMEX Limited (20); Tortuga Casualty Company (30); and XL Insurance Company Limited (300).⁸

Two of the pools have membership restrictions: Energy Insurance Mutual limits its membership to electric and gas utilities and PRIMEX to medium-sized chemical companies. Also, PRIMEX's coverage begins at the lowest level of losses, providing \$15 million in coverage above \$1 million in losses, while Energy Insurance Mutual provides \$10 million to \$50 million in coverage above \$25 million in losses.

The other three groups have diverse industry participation. ACE, for example, has policyholders in manufacturing, transportation, financial and other services, mining, retail trade, construction, and wholesale trade. They also offer broad coverage limits: Tortuga provides up to \$50 million in coverage above \$25 million in losses; XL provides up to \$75

⁷EPA identified an estimated 85,000 large-quantity generators (who generate more than 1,000 kilograms of hazardous waste per month) since the passage of RCRA in 1976. Of those EPA estimates that 40,000 are currently operating. In addition, EPA estimates that over 100,000 small-quantity generators (who generate between 100 and 1,000 kilograms per month) are currently operating, although only about 60,000 had been identified by EPA as of July 1987. These figures do not include generators who do not generate a hazardous waste but do face potential pollution releases from hazardous substances used in the production process. These generators may number in the tens of thousands.

⁸Business Insurance, March 30, 1987.

million in coverage above \$25 million in losses; and ACE provides up to \$140 million in coverage above \$100 million in losses.

Risk-Retention Groups

Efforts to form risk-retention groups for those with potential pollution liability are being initiated by financial brokers and trade associations whose clients or members are unable to obtain pollution insurance from the insurance industry. Risk-retention groups emerged after the enactment of the Product Liability Risk Retention Act of 1981, which enables certain companies to form self-insurance associations or corporations that could provide insurance to cover their members' potential product liability risks when commercial product liability insurance became scarce. The act also preempts state laws prohibiting such pools. The viability of this option for pollution insurance was enhanced by two recent laws. First, the Risk Retention Amendments of 1986 expanded the concept of risk retention beyond product liability risks to allow a broader range of firms with common liability risks (not necessarily related to product liability) to form self-insurance pools. Second, section 210 of SARA specifies that risk-retention groups may operate to provide pollution liability insurance to their members.

During our review we identified three risk-retention groups that were in the process of forming to meet pollution insurance needs in the hazardous substance industry. All three anticipated being operational by late 1986 or early 1987. However, two have slipped their original start-up dates to late 1987 and the third effort was terminated in August 1987. The two ongoing efforts are Hypercept and the Environmental Protection Insurance Company (EPIC). These groups are targeting small to mid-sized firms. Hypercept plans to initially offer up to \$2 million total annual coverage to about 33 companies and, as participation increases, plans to increase coverage limits to \$6 million. EPIC plans to offer up to \$10 million annual coverage to about 200 companies. The third group, North American Casualty Cooperative (NACC), was targeting very large companies and planned to offer up to \$12 million to \$50 million annual coverage to 30 to 100 "Fortune 500" companies. NACC withdrew its offering when, according to its founder, companies were not willing to put up the initial capital contribution needed to begin operations.

Also, an earlier effort to form a risk pooling group for hazardous waste dispersers was abandoned in late 1986. That effort, called Waste Insurance Liability Limited (WILL), was undertaken by the National Solid Wastes Management Association in 1985. According to an official, the association attempted to develop an industry-owned insurance company

with coverage that would satisfy RCRA liability requirements for its members and protect their members' assets. Because the waste disposal industry is comprised of a few very large companies and many small companies, the association was unable to set initial capital contributions and annual premiums that prospective participants considered equitable. The association could not resolve these problems and decided that it would not go forward with its plan.

Summary

The supply of pollution insurance currently available to the hazardous substance industry is limited. Only one insurance industry source, AIG, is actively pursuing the pollution insurance market. A few other companies write pollution insurance for selected clients who carry coverage for other risks.

The remainder of the insurance industry, for the most part, regards pollution risks as uninsurable. These companies cite unfavorable legal trends and potentially enormous claim payments for their withdrawal from the market over the last few years and their reluctance to underwrite pollution risks. As we discuss in subsequent chapters, insurers maintain that the combination of the inherent risk of insuring against pollution, uncertainty about judicial decisions regarding liability standards and insurance contract coverage for pollution incidents, and broad liability established by federal environmental law made it too difficult for them to write new pollution insurance at a profit. More importantly, insurers claim that these aspects of current pollution liability may prevent their future reentry into the pollution insurance market, even as the overall insurance industry recovers its financial position.

In an effort to fill the void created by the lack of pollution insurance available from the insurance industry, risk-retention groups are forming. These participant-owned and -operated self-insurance pools are forming as an alternative to traditional insurance for firms that handle hazardous substances and want insurance for their potential pollution risks. However, risk-retention groups established to insure other types of liabilities have been slow to develop and may face capitalization problems. Because risk-retention groups for pollution liabilities are still in the formative stages, it is too early to assess their effectiveness in meeting the insurance needs of their members.

Agency Comments

We received both oral and written comments on a draft of this report from EPA. In elaborating on their written comments, EPA officials commented that they generally concur with the report's findings, conclusions, recommendation, and matter for congressional consideration.

EPA Needs to Develop Additional Financial Responsibility Requirements for Those With Potential Pollution Releases

TSDFs, generators, and innovators of waste reduction technologies who seek to protect themselves against losses arising from pollution liabilities are, for the most part, finding that pollution insurance is scarce and expensive. According to industry sources, chemical manufacturers generally do not have commercial pollution insurance, nor do many product manufacturers that use toxic materials in their production processes. Most hazardous waste land disposal facilities also do not have pollution insurance.

In order to ensure a minimum level of financial resources to cover certain pollution liabilities for TSDFs, RCRA required EPA to establish financial responsibility requirements. In response, EPA developed regulations allowing TSDFs to demonstrate financial responsibility through the use of insurance or by meeting financial responsibility tests. Due to the absence of insurance, many of the approximately 4,000 TSDFs are demonstrating financial responsibility through these tests. Similar requirements were mandated under CERCLA in 1980 for the broader range of facilities not covered by RCRA or other federal law. As yet, EPA has not established these requirements.

Insurance for TSDFs

According to EPA regional and most state RCRA program representatives, TSDFs with land disposal activities (specifically, land treatment, surface impoundments, and landfills) are experiencing the greatest difficulty getting insurance. Under RCRA, these facilities are required to have both sudden and gradual pollution coverage. However, as indicated in chapter 2, insurance companies, over the past few years, have practically withdrawn from the market of offering gradual pollution liability insurance.

According to an official of the National Solid Wastes Management Association, which represents about 130 companies that handle hazardous or infectious materials, pollution liability insurance is a major problem for all of its members. For the most part, member companies meet their pollution liability requirements through financial responsibility tests rather than with insurance. The association membership includes 18 disposal companies that together account for at least 75 percent of commercially disposed hazardous waste.

In a review of annual reports and other public documents, we found that the nation's two largest hazardous waste disposal companies had indemnified pollution insurance policies that do not transfer liability risk to the insurer except in the event of bankruptcy. On a Securities and

Exchange Commission form (SEC form 10-K) that publicly-owned corporations are required to file annually, these two disposal companies reported that, during 1985, they had indemnified pollution insurance policies in which they agreed to reimburse their insurer for claims paid on the policies. Officials at both companies told us that they still have indemnified pollution insurance policies and that the policies are with AIG. The officials said that reimbursement is provided under a separate contractual agreement and that the reason for having these policies is to comply with state regulations requiring insurance. However, neither regarded these policies as insurance and both said their companies use the financial test to meet federal RCRA financial requirements. According to AIG officials, AIG also does not regard indemnified policies as insurance, and as of July 1987, they had fewer than 10 of these policies in effect.

There is no centralized data system documenting how pollution insurance premiums and coverage levels have changed for the about 4,000 TSDFs identified by EPA as currently operating RCRA facilities available to handle hazardous waste. However, federal and state RCRA program representatives indicated, on the basis of their experience and knowledge of facilities within their respective states and regions, that pollution insurance premiums have increased several fold over the past few years while the level of coverage has decreased substantially. We have no basis for evaluating the appropriateness of the changes in premiums and coverage because other factors at the facilities may have affected the changes (e.g., expanding operations or increasing levels of hazardous waste activity). However, the regulators said these changes in premiums and coverage are examples of the situation facing TSDFs.

Insurance for Generators

There are over 100,000 facilities identified by EPA as hazardous substance generators. However, a relatively small number of companies accounts for most of the hazardous substances generated nationwide. The Chemical Manufacturers Association (CMA) represents 167 companies that produce about 90 percent of the basic industrial chemicals in the United States. CMA told the Congress in March 1986 that commercial pollution insurance (both for gradual and for sudden pollution releases) for its member companies has disappeared altogether.¹

¹Statement of CMA before the Senate Committee on Commerce, Science and Transportation, on the availability and cost of liability insurance, March 4, 1986

Other industries are also experiencing difficulties obtaining commercial pollution insurance. For example, the National Association of Manufacturers, whose approximately 14,000 member companies account for 80 percent of our nation's manufactured output, is a potential market for pollution insurance because its member companies use toxic chemicals as product ingredients. An association official told us that while pollution insurance was not strictly unobtainable, it is difficult to obtain and very expensive. The National Association of Chemical Distributors, whose 280 member companies handle the movement and distribution of 25 percent of all manufactured chemicals, told us that pollution risk insurance is virtually unobtainable for its members.

CMA surveyed its members regarding past and present insurance availability and their insurance practices. Thirty-seven percent of its members (62 of 167 companies) responded to the survey conducted between February and June of 1987. The CMA summary results available to us indicated that 14 U.S.-based chemical companies had gradual pollution coverage under EIL policies in 1984; 4 had EIL policies in 1986, with much lower policy limits. Further, sudden and accidental pollution coverage was reduced in scope and became largely unavailable to the chemical industry in 1986.

From its survey results CMA concluded that insurers continue to demonstrate a reluctance to insure high-hazard liability risks; CMA also believes insurers will not insure chemical business in the near future. As an alternative, more chemical companies will have to self-insure pollution liabilities—a situation of greater concern to small and medium-sized chemical companies than to large ones.

We asked CMA to provide us with contacts among its member companies who would speak with us in detail about their experiences obtaining pollution insurance. We were told that individual companies were reluctant to do so because of concern about disclosing proprietary information that could hurt them competitively. However, CMA did identify officials of five chemical manufacturers who agreed to meet with us. All five told us that their companies have no true risk-transfer insurance for pollution risks. Two of the companies with TSD land disposal risks have fully indemnified policies to meet certain individual state requirements but generally use the financial test to meet their RCRA financial responsibility requirements. However, we have no way to assess the extent to which the reported experiences of these five companies mirror the rest of the industry.

Surveys by the Risk and Insurance Management Society present similar results. This group, which represents about 3,800 companies, service firms, nonprofit institutions, and governmental entities, surveyed its members' insurance coverage for 1985 and 1986. Those who responded to the pollution portion of the surveys (16 percent and 7 percent, respectively, for those years) reported a sharp cut in availability of pollution insurance in 1985 and further reductions in 1986. They also noted a marked increase in premiums and deductibles, together with restrictions in coverage for the same period.

Insurance for Innovators of Waste- Reduction Technologies

The rising costs of waste management and associated liabilities for waste disposal make waste reduction an increasingly more desirable objective. By reducing the generation of waste, industry can save waste treatment costs and achieve better protection for health and the environment. At present, the development of these alternative and innovative waste reduction technologies is primarily inhibited by economic factors other than the availability of insurance.

Economic Factors Cited as Primary Obstacle to Waste Reduction Effort

Recent major studies have considered the impact of several economic factors, including insurance, on emerging waste reduction technologies. In a 1986 Office of Technology Assessment survey, industry representatives said that economic factors were the most significant barriers to waste reduction.² A 1986 EPA report to Congress noted that even though waste minimization practices often lead to cost savings in the long run, availability of capital in the short run for plant modernization is often a significant obstacle to their implementation.³ A 1985 Congressional Budget Office report also found industry introducing only limited applications of waste-reduction technologies despite the long-term economic and environmental benefits of using them.⁴ We reported in 1986 that the adoption of permanent treatment technologies at Superfund sites faces initial barriers more significant than insurance, including economic and

² Serious Reduction of Hazardous Waste for Pollution Prevention and Industrial Efficiency, OTA, September 1986.

³ Minimization of Hazardous Waste, Executive Summary and Fact Sheet, EPA, October 1986.

⁴ Hazardous Waste Management: Recent Changes and Policy Alternatives, Congressional Budget Office, May 1985.

marketing uncertainties as well as a number of institutional, regulatory, and informational barriers.⁶

Insurance May Be an Obstacle in the Future

Our examination of the Superfund innovative Technology Evaluation Program, now underway at EPA, indicates that as technologies evolve and approach commercial application, the need for insurance may become more significant. EPA established the program in 1986 to accelerate the development, demonstration, and use of new or innovative technologies. These technologies are being tested on cleanup activities at Superfund sites, but they may be useful for routine waste reduction as well. In its program plan, EPA states that liability concerns of technology developers and potential commercial users can be an important obstacle to both the development and use of new hazardous substance treatment technologies. The program plan acknowledges that developers of innovative technologies may find that liability insurance to cover their operational risks during development and testing of those technologies is difficult or impossible to obtain.

We spoke with representatives of 11 of the original 12 demonstrators participating in the program to determine their insurance status. According to 7 of the 11 representatives, as of August 1987, one company left the program because pollution insurance was unavailable, three had liability insurance to cover their operational risks during development and testing of their technologies, and three are relying on EPA to provide contractor indemnification for the demonstrations.⁷ Of the remaining four companies, one has decided to self-insure while the other three have not yet resolved how to cover their potential liabilities.

The experience of these demonstrators suggests that the lack of performance records for innovative technologies may create uncertainty about the long-term effectiveness of these new cleanup remedies. EPA officials responsible for the program told us that, because of this uncertainty, there may be a tendency within the insurance industry to impute a probability of failure to some alternative technologies. All participants

⁶Hazardous Waste: EPA's Consideration of Permanent Cleanup Remedies (GAO/RCED-86-178BR, July 7, 1986)

⁶Superfund Innovative Technology Evaluation (SITE) Strategy and Program Plan, EPA, December 1986.

⁷SARA section 119 generally allows EPA to indemnify Superfund cleanup contractors for their liabilities due to negligence arising from site cleanup activities.

said they are marketing or hope to market their technologies to the hazardous waste industry. At that point, a lack of appropriate pollution and product liability insurance may become a barrier to the commercial development of those innovative technologies.

Financial Responsibility Tests as an Alternative to Insurance

With the passage of RCRA in 1976, the Congress required that EPA establish financial responsibility requirements to ensure that hazardous waste TSDFs have adequate financial resources to cover certain pollution liabilities. In response, EPA developed and implemented what it regards as minimum liability standards and identified financial responsibility mechanisms, including liability insurance, that TSDF owners or operators may use to demonstrate financial responsibility. In 1980, with the passage of CERCLA, the Congress expanded the mandate for financial responsibility requirements to include certain facilities not covered under RCRA or other federal law. Although by 1983 EPA had promulgated the regulations for TSDFs under RCRA, it has not established financial responsibility requirements for those classes of facilities covered by CERCLA financial responsibility provisions, which could include generators and innovators of waste-reduction technologies.

Liability Requirements for TSDFs

EPA regulations developed pursuant to RCRA require that TSDF owners or operators maintain some specific financial responsibility for liabilities to third parties in case of bodily injury and property damages caused by sudden and/or gradual accidental pollution occurrences. EPA regulations allow TSDFs to demonstrate financial responsibility by any of the following mechanisms: insurance, financial test, corporate guarantee, combination of insurance and the financial test, or combination of insurance and a corporate guarantee. As table 3.1 shows, all TSDFs must maintain sudden accidental liability coverage of at least \$1 million per occurrence, with an annual aggregate of at least \$2 million. Additionally, land disposal facilities must maintain nonsudden (gradual) accidental liability coverage of at least \$3 million per occurrence, with an annual aggregate of at least \$6 million. The TSDFs may demonstrate liability coverage by using one of the specified mechanisms.

**Chapter 3
EPA Needs to Develop Additional Financial
Responsibility Requirements for Those With
Potential Pollution Releases**

**Table 3.1: RCRA Third-Party Liability
Requirements for TSDFs**

Sudden accidental occurrences

An owner or operator of a TSDF must have liability coverage for at least \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs

Gradual accidental occurrences

An owner or operator of a land disposal facility must maintain at least \$3 million per occurrence with an annual aggregate of at least \$6 million, exclusive of legal defense costs

This liability coverage may be demonstrated by one of the following mechanisms:

- Liability insurance
- Financial test^a
- Corporate guarantee^b
- Combination of insurance and financial test
- Combination of insurance and corporate guarantee

^aThe financial test may be met by demonstrating either (1) a prescribed amount of working capital, tangible net worth, and U.S. assets or (2) a specified bond rating, a prescribed amount of tangible net worth, and U.S. assets

^bA corporate guarantee is a written guarantee of liability coverage by the parent corporation of the TSDF owner or operator. To use this (1) the parent corporation must meet the financial test and (2) the state in which the parent corporation is incorporated and the state in which the demonstrating facility is located must report to EPA that the guarantee is legally valid and enforceable in that state

As mentioned earlier, there is no centralized data system at the federal level that identifies the frequency with which TSDFs use the different financial options to demonstrate financial responsibility. However, most federal and state representatives responsible for administering the RCRA program in the 15 states contacted during our review told us that the financial test was the option most often used to meet the RCRA requirements.⁸ Insurance was cited as the second most often used option. These program representatives pointed out that smaller companies, in particular, are having a difficult time due to high insurance premiums and an inability to meet the financial test requirements.

To pass the financial test specified in EPA regulations, facility owners must demonstrate that they have sufficient assets to cover their potential liability for sudden or sudden and gradual occurrences. In lieu of an insurance policy, the owners must submit financial statements from an independent auditor to state representatives responsible for administering the RCRA program.

In addition to insurance and the financial test, RCRA regulations allow the use of a corporate guarantee, a combination of insurance and the

⁸The 15 states we contacted are Alabama, California, Colorado, Connecticut, Illinois, Indiana, Massachusetts, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, and Texas

financial test, and a combination of insurance and a corporate guarantee. According to RCRA program representatives in the 15 states we contacted, very few TSDFs presently use the combination of mechanisms to satisfy the RCRA requirements. As of June 1987, 12 of the 15 states contacted allow the use of corporate guarantees. Other states are expected to allow the use of this option in the near future. EPA Region IV officials estimated that only about 14 percent of the facilities in the region, all located in Alabama, are currently using corporate guarantees.

Most TSDFs claim that they are able to meet RCRA financial responsibility requirements, even with the current general unavailability of pollution insurance. For instance, on November 8, 1985, TSDFs that were operating land disposal facilities had to certify compliance with RCRA groundwater monitoring and financial responsibility requirements. Of the 1,538 land disposal facilities operating at that time, only about 60 of the facilities failed to certify compliance with the financial responsibility requirements. (Approximately 1,000 of the 1,538 facilities failed to meet groundwater monitoring requirements and have been ordered closed.) An official of one major commercial disposal company told us that hazardous waste disposal companies use the financial test and corporate guarantee to demonstrate financial responsibility for closure, post-closure liability, and third-party liability requirements. He expressed concern that a company's corporate capacity to pass these tests may be strained as EPA issues other financial responsibility regulations using these tests for such programs as RCRA corrective action and CERCLA section 108(b). Because of these concerns, EPA and industry representatives have been meeting over the last year to discuss the adequacy of financial responsibility tests and to explore other options to ensure financial responsibility under environmental laws.

Liability Requirements for Others Have Not Been Implemented

Section 108(b) of CERCLA mandated the development of financial responsibility requirements, consistent with the degree of associated risks, for certain classes of facilities that handle hazardous substances and are not covered under RCRA or other federal law. The act required that beginning not earlier than 1985, EPA promulgate financial responsibility requirements for those facilities. These requirements were to be phased in over a period of not less than 3 years and not longer than 6 years.

SARA amended these requirements in 1986 by adding that financial responsibility may be established by any one or any combination of the

following, insurance, guarantee, surety bond, letter of credit, or qualification as a self-insurer. Further, it directed that the financial responsibility requirements contained in forthcoming regulations be phased in "as quickly as can reasonably be achieved but in no event more than 4 years" after the regulations are issued.

EPA, up until 1983, performed several studies to define the scope of these requirements in terms of who and what they would apply to, and to lay out a conceptual framework for all the possible things they could do. However, according to the EPA staff person in charge of this effort, the work was stalled in 1983 because of lack of funds. He also said that an attempt to renew the work in early 1987 was again halted by EPA in June 1987. According to the official, EPA has no plans or time frames for developing the regulations. As a consequence, EPA has not established a financial safety net to protect those who may be harmed from releases of hazardous wastes by other than the owners or operators of TSDFs.

Conclusions

Although a few insurance sources are currently offering pollution insurance, most TSDFs, generators with pollution risks, and innovators of waste-reduction technologies are not now obtaining commercial pollution insurance and are operating without this coverage. EPA has implemented regulations under RCRA that set minimum financial responsibility requirements for TSDFs. In the absence of insurance, the requirements ensure that these facilities have at least a minimum level of internal financial resources to cover pollution liabilities, such as those involving third-party bodily injury and property damage.

EPA has not, however, established similar requirements under CERCLA for other classes of facilities with potential pollution liabilities. Given the general unavailability of insurance to cover risks associated with hazardous substances, it is critical that EPA develop and implement the 1980 CERCLA financial responsibility requirements for the potentially broad range of facilities covered by CERCLA section 103(b).

Recommendation to the Administrator, EPA

We recommend that the Administrator, EPA, establish specific milestones leading to the timely implementation of financial responsibility regulations for the risks associated with classes of facilities that EPA determines are covered by CERCLA section 103(b).

Legal Liability Standards and Remedies for Cleanup and Compensation

CERCLA was enacted to ensure the cleanup of the nation's abandoned hazardous waste sites. CERCLA liability standards, which were designed to facilitate actions by the federal government to compel cleanup and recover cleanup costs, have been consistently upheld by federal courts. However, the act does not address the need to compensate persons harmed by hazardous substance releases. For the most part, persons seeking redress for bodily injury or property damage bear the burden of proving liability under varying state laws. While changes brought about in some state courts have made it easier for alleged victims to seek compensation, in other states recent tort reform legislation may have made it more difficult.

Many major property/casualty insurers claim that the application of liability standards associated with cleanup under CERCLA is an extreme impediment to the availability of pollution insurance. They maintain that these standards create the likelihood that an insured's conduct will bear no relationship to the extent of his liability, thus making it impossible for insurers to predict pollution losses. Regarding compensation for bodily injury and property damage under state common law, insurers maintain that new theories of liability, new forms of recovery (such as for medical monitoring and impaired quality of life), and changes in statutes of limitations also undermine the predictability needed to underwrite pollution risks. In 1985, insurers reported to us that they made relatively modest amounts of claim payments involving pollution incidents, but that several thousand pollution claims had not been settled. Insurers assert that the value of these open claims and other future pollution claims could severely strain their capacity to write property/casualty insurance in the future.

The extent to which insurers may be held liable for the cleanup of old waste sites under CERCLA hinges on court interpretations of disputed insurance contract provisions. Regarding current and future TSDFS, however, RCRA established a program to manage hazardous waste from "cradle to grave" that should make it easier for insurers to underwrite pollution risks. The objective of this program is to ensure that hazardous waste is handled in a manner that protects human health and the environment. In addition, the program established specific technical standards for the design and safe operation of TSDFS.

This chapter discusses the liability standards faced by parties involved with hazardous wastes. Chapter 5 discusses how the courts are applying these liability standards to the parties' insurers through interpretation

of insurance policies. Chapter 6 presents data on the number and value of pollution claims paid by insurers in 1985.

Liability Standards and Remedies Under CERCLA

CERCLA's authority focuses on cleanup of hazardous waste sites that are characterized as abandoned or uncontrolled. Under CERCLA, responsible parties are held liable to clean up the sites themselves or to reimburse the government for expenses incurred in cleaning up the sites or mitigating losses to natural resources. This liability is retroactive, since responsible parties include not only any present owner or operator of the site but also any past owner or operator of the site at the time of disposal, transporters of hazardous substances who selected the site, and the generators of the substance. Although CERCLA does not provide redress for injuries or damages, it does establish the period of time in which an injured party may seek compensation under state law.

Since the enactment of CERCLA, courts have consistently upheld its broad standards of liability and causation. The following three standards were designed to make it easier for the government to seek cleanup by eliminating certain requirements for proof on the part of the federal government.

Strict liability Courts have consistently held that CERCLA imposes strict liability, meaning that the government need not prove negligence, or failure to exercise due care, in order for defendants to be liable for cleanup costs. As a result, both current and past owners and operators of hazardous waste sites are liable for cleanup regardless of whether they caused the presence or release of the hazardous substance. In addition, generators who arranged for disposal or treatment are liable even if they did not select or were not aware of the site chosen for disposal. Transporters who selected a disposal site and carried substances to it are also considered liable even though they did not cause the release.

Joint and several liability Although a number of parties may have contributed to the presence of hazardous wastes at a site, courts, under this standard, have ruled that the government can hold one responsible party liable for the entire costs of cleanup, not just for that portion that can be attributed to that party's wastes. As illustrated in the CERCLA case of *United States v. Chem-Dyne Corp.*,¹ joint and several liability is appropriate for most CERCLA cleanups because wastes have been commingled and it is difficult to establish "a reasonable basis for division

¹572 F Supp 802 (S.D. Ohio 1983)

according to the contribution of each.”² As the court noted, only if the harm is divisible and there is a reasonable basis for apportionment of damages will each defendant be liable for the portion of harm he himself caused. Further, courts, as in the CERCLA case of United States v. South Carolina Recycling and Disposal,³ rejected the notion that relative volumes of waste that generators contributed to a site could be used as a means of apportioning liability.

Causation. Under CERCLA, a generator may be held liable for cleanup even without a specific determination that the generator's wastes were among the hazardous materials released at a site. Following a district court case in 1983, other districts have adopted a causation test that requires demonstrating only that a generator's wastes were sent to a site, that its wastes were at the site at the time of release, and that a hazardous substance was released and cleanup costs incurred.⁴

Effect of CERCLA Liability Standards on Insurability and Standards of Care

Under a negligence standard in lieu of strict liability, the government would have to demonstrate that one or all of the parties that caused the presence of hazardous wastes had been negligent, or had failed to exercise an appropriate standard of care. Further, even if the government were able to prove negligence, in the absence of joint and several liability, it would have to locate all responsible parties and could recover their proportionate share of cleanup costs only from those that were financially solvent, any remaining cleanup costs would have to be borne by the government.

Because CERCLA's strict, joint and several liability standards apply to any party responsible for the presence of hazardous wastes at a site, regardless of the extent of wastes contributed or the care taken to prevent contamination, the federal government can more easily seek cleanup than if it had to prove liability under other standards, such as negligence. Using an extreme example, a generator who disposed of one barrel of waste material at a land disposal facility 30 years ago could now be liable for all cleanup costs resulting from gradual seepage of wastes during the past 20 years. In practice, this extreme situation is

²572 F Supp at 811

³14 E.L.R. 20,272 (D.S.C. 1984)

⁴United States v. Wade, 577 F Supp 1326 (E.D. Pa. 1983). See also United States v. South Carolina Recycling & Disposal, Inc., 14 E.L.R. 20,272 (D.S.C. 1984)

not likely to take place. SARA section 122 includes a provision for settlement with de minimis (very small) contributors and also includes provision for the use of nonbinding allocations of liability among responsible parties in order to expedite the apportionment of CERCLA site cleanup costs. In addition, SARA section 113 provides that in resolving contribution claims, "the court may allocate response costs among liable parties using such equitable factors as the court determines are appropriate."

Insurers assert, however, that CERCLA's liability standards make it impossible to define risks, predict losses, and establish appropriate premiums for insuring companies involved with hazardous wastes, since a policyholder could become involved in a joint and several liability situation through the conduct of another party. Depending on how the liability is applied, an insurer could find itself providing coverage for the conduct of persons other than its policyholder. For example, insurers cite their concern that generators who dispose of their hazardous wastes at common disposal facilities could become jointly and severally liable if the disposal facility did not have adequate resources to remedy releases that cause off-site property damage and bodily harm.

We believe, however, that the difficulties in predicting how CERCLA's joint and several liability may be applied have more to do with past insurance policies and losses related to previously unmanaged waste than with current or future policies. As noted earlier, RCRA requires all hazardous wastes to be stored or disposed of at permitted facilities whose owners and operators must meet federal standards of care to assure that hazardous wastes are handled in a manner that protects human health and the environment. Additionally, a generator and its insurer will not risk liability at a common disposal facility unless the facility owners/operators do not have adequate resources to cover their liabilities. Owners/operators must carry a minimum amount of insurance coverage or meet some other financial means test to cover liabilities associated with the facility's operation and its subsequent closure and post-closure care.

Insurers go on to assert that CERCLA's standards of liability not only have reduced the availability of pollution insurance, but also have affected the standard of care owed by generators, transporters, and owners/operators of TSDFs. They maintain that the liability standards undermine these parties' incentives to exercise due care to prevent pollution because the standard of care is not related to the potential for liability. However, an official of the largest commercial waste disposal

firm told us that standards of liability have in fact increased the standard of care taken by the industry. He told us that some of the larger generators are now investing in expensive equipment and facilities for their own on-site treatment and disposal facilities. Such generators can then keep total control of their waste and would not be subject to joint and several liability. Smaller firms that cannot afford the expensive outlays necessary for their own hazardous waste facilities are looking to commercial facilities that practice standards of care that will keep the generators free from this liability. He also told us that disposers are seeking additional ways to reduce the impact of CERCLA liability. He noted that his firm was developing innovative disposal technologies and working with generators to reduce their waste output.

A CMA official told us that CERCLA's standards of liability do not play a role in its member companies' standard of care. He said, "CMA members place the health and safety of their workers and the public as their highest priority." It should also be noted that the one insurer marketing pollution insurance (AIG) offers insurance only to companies that demonstrate that they exercise an appropriate standard of care through detailed risk assessments and risk management practices.

Victim Compensation

With the exception of several laws that provide compensation to victims under special circumstances—coal miners suffering from black lung disease, for example—federal law does not provide remedies for personal injury or damage due to hazardous substances. Persons alleging harm from hazardous waste must seek compensation under tort law (the body of law dealing with wrongful acts) in individual states. Although the Congress considered the appropriateness of federal victim compensation during deliberations in enacting the 1980 CERCLA and when first seeking to reauthorize the act in 1984, it decided against such provisions. However, in 1986 the Congress used SARA to standardize one element of state tort law by extending the period of time allowed for bringing action for injury or damages resulting from hazardous waste contamination.

Under state statutes of limitation, plaintiffs must bring suit within a certain period of time, generally ranging from 1 to 3 years, from when some action occurs. Before 1986, some states still considered this period to begin at the time of exposure. However, since illnesses brought on by exposure to hazardous materials typically have long latency periods, the statutory limitation periods could run out before the injury is discovered. SARA provided a federal statute of limitations setting the commencement date for state statutory limitation periods as no earlier than

the date on which the injury was discovered to be attributable to a hazardous substance.⁶

Bodily Injury and Property Damage Remedies Under State Law

In addition to federal requirements, 17 states have enacted hazardous waste cleanup laws, generally resembling CERCLA, with funds for emergency cleanup of hazardous substance spills.⁶ However, although Florida and New Jersey provide a fund for property damage, neither these laws nor federal law provides remedies for personal injury. Laws in two other states specifically provide for persons harmed by hazardous substances, but for the most part, alleged victims must seek redress for bodily injury or property damage under state common law.

State Common Law Remedies

Common law has evolved over time in each of the individual states. Under common law, someone seeking remedies for personal injury or property damage due to hazardous wastes must fit his or her case into the traditional causes of action—negligence, trespass, nuisance, and strict liability. These causes of action are not easily adapted to hazardous waste cases, in which there may be more than one responsible party and in which long periods of time may elapse before the injury is discovered.

For example, in a negligence action, the victim must demonstrate that he or she sustained an injury, that the injury was caused by a release of a hazardous substance, that the defendant had a duty to conform to certain standards of conduct to avoid risks to others, and that those standards were not met. Actions based on nuisance and trespass, used to obtain a remedy for harm to property, must prove interference with the victim's property use or possession. In an action based on strict liability, the victim must prove that the defendant was engaged in an ultrahazardous or abnormally dangerous activity, where risk of serious public harm could not be eliminated by the exercise of care.⁷

⁶SARA sec. 203, CERCLA sec. 309, as amended.

⁶These 17 states are Alabama, Arizona, Colorado, Connecticut, Florida, Georgia, Illinois, Louisiana, Maryland, Michigan, New Hampshire, New Jersey, New Mexico, North Carolina, Pennsylvania, Tennessee, and Wisconsin.

⁷Several New Jersey cases have declared hazardous waste activities to be abnormally dangerous activities. See *Kenney v. Scientific, Inc.*, 204 N.J. Super. 228, 497 A.2d 1310 (Super. Ct. Law Div. 1985), and *New Jersey Dept. of Env'tl. Protection v. Ventron Corp.*, 94 N.J. 473, 468 A.2d 150 (1983).

A 1982 congressionally directed study examining legal remedies and barriers to recovery found that persons harmed by hazardous wastes face substantial barriers in an action to recover damages for personal injury or property damage.⁸ The principal barriers had to do with statutes of limitation, proof of causation, and apportionment of damages among multiple defendants. As noted earlier, SARA modified one of these barriers by changing the commencement date under state statutes of limitation from the time when injuries are caused to the time when they are discovered and connected with exposure to a toxic substance. However, proving causation and apportioning damages among several responsible parties remains difficult for those seeking remedies for hazardous waste injuries under state common law.

Because long periods of time may pass before injuries are discovered, persons harmed by a hazardous substance may face a formidable task in attempting to demonstrate the causal connection between a hazardous substance and their injuries or damages. Responsible parties must be identified, and documents and witnesses necessary for evidence must be located, including evidence of the hazardous substance and the victim's exposure to it. The injuries may not be clinically visible and may therefore be difficult to measure and prove. Persons harmed by hazardous substances must also be able to prove that their injuries were not caused by other factors, such as cigarette smoking. Finally, proving causation may require considerable medical and scientific testimony to demonstrate the epidemiological or statistical correlation between environmental exposure and the onset of illness. According to the previously cited study, the costs of providing this information can be a significant barrier to recovery for injuries.

Persons harmed by hazardous substances are also hampered by the fact that several parties may have stored or disposed of hazardous wastes at the site in question. Under common law, alleged victims have the burden of proving that a defendant's conduct was a substantial factor in the cause of injury. Thus, when a number of parties disposed of hazardous wastes, whether acting in concert or not, it may be impossible to demonstrate that any one defendant contributed substantially to the injury.

⁸Injuries and Damages from Hazardous Wastes—Analysis and Improvement of Legal Remedies. A Report to Congress in Compliance with Section 301(e) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (PL 96-510) by the "Superfund Section 301(e) Study Group," September 1982. The study group was made up of attorneys from the American Bar Association, the American Law Institute, the Association of American Trial Lawyers, and the National Association of State Attorneys General.

Court Decisions in Hazardous Waste Cases

Nationwide, there have been relatively few published decisions in hazardous waste cases, possibly because many of the suits filed are still in litigation or have been settled out of court.⁹ However, courts have allowed persons harmed by hazardous wastes to seek recovery for mental or emotional distress, immunological damage, impaired quality of life, and for medical monitoring. In addition, courts have allowed new types of evidence of causation and new methods of apportioning damages in analogous cases involving product liability that might have some bearing on future hazardous waste cases.

Insurers maintain that these developments constitute an evolution and expansion of liability that undermine their ability to predict losses. They assert that many underwriters fear that liability concepts developed in one jurisdiction could be adopted in other jurisdictions, thereby rendering invalid the loss estimates upon which insurance contract coverages were originally based.

Recovery for Mental or Emotional Distress

Traditionally, common law has limited recovery for emotional or mental distress, such as sleeplessness, weight loss or gain, and fear of cancer, to cases that can be supported by evidence of physical impact or bodily injury. That is, in some jurisdictions, courts require plaintiffs claiming mental distress to demonstrate that some physical impact occurred. For example, in the case of mental distress resulting from an auto accident, the automobile must actually have struck the plaintiff. In other jurisdictions, plaintiffs must support their mental distress claim with evidence of a bodily injury, with or without impact.

Recently, however, courts have allowed plaintiffs in hazardous waste cases to make claims for mental or emotional distress without such evidence. In a 1987 case involving a seaman who was accidentally soaked with toxic chemicals, the Fifth Circuit Court of Appeals rejected the physical injury or impact requirement. With or without physical injury or impact, the court ruled, the plaintiff was entitled to recover damages for mental distress arising from fear of cancer, so long as his fear was reasonable and causally related to the defendant's negligence.¹⁰

⁹Although they involve toxic or hazardous wastes, we generally did not look at cases involving worker exposure, which are covered by different laws and legal principles.

¹⁰*Hagerty v. L & L Marine Services*, 788 F.2d 315 (5th Cir. 1987). The court noted that, in any event, the plaintiff could have satisfied either requirement since he did suffer an injury from the drenching, which constituted an impact.

Other courts have also accepted claims based on fear of cancer. In a California case, for example, pesticide workers were allowed to maintain a suit for emotional distress induced by a fear of cancer, based solely on evidence of exposure to a toxic substance and evidence that the substances pose substantial cancer-causing risks.¹¹ In Sterling v. Velsicol,¹² plaintiffs were awarded damages for fear of cancer, but in this case, physical evidence of injury to their livers and kidneys was used to establish the reasonableness of their fears.

Elsewhere, courts that still require evidence of physical injury have allowed plaintiffs to use evidence of exposure to the hazardous substance by breathing or ingestion. In Laxton v. Orkin Exterminating Co.,¹³ for example, the Tennessee appeals court upheld the trial court's ruling that the plaintiffs had sustained a "technical physical injury" if it could be demonstrated that they had ingested any amount of the pesticide chlordane.

Recovery for Subcellular Damage

In two cases courts have allowed plaintiffs to seek recovery for subcellular damage (damage below the level of the cell) that is not readily observable and currently symptomatic. In the first case, a suit filed by residents of Woburn, Massachusetts, the federal district court ruled that although not visible or obvious, immune system damage could nevertheless be considered a physical injury and therefore compensable.¹⁴ In another case involving exposure to radon gas, the court held that the plaintiffs' alleged chromosomal damage, if proven, could constitute a present physical injury.¹⁵

Recovery for Impaired Quality of Life

In a 1985 case, affirmed by the New Jersey Supreme Court in 1987, a New Jersey court upheld a jury award of damages for infringement upon the victims' quality of life. In this case residents of Jackson Township had been unable to use their well water because it was contaminated. Their inability to obtain water from their own wells, the judge

¹¹Arnett v. Dow Chemical Co., No. 72-9588 (Cal. Super. Ct. 1983)

¹²647 F.Supp. 303 (W.D. Tenn. 1986)

¹³639 S.W.2d 431 (Tenn. 1982)

¹⁴Anderson v. W.R. Grace & Co., 628 F.Supp. 1219 (D. Mass. 1986)

¹⁵Brafford v. Susquehanna Corp., 586 F.Supp. 14 (D. Colo. 1984)

ruled, was an invasion of the plaintiffs' property interests, and their inconvenience, annoyance, and discomfort were compensable.¹⁶

Recovery for Medical Monitoring

Because the symptoms of exposure to hazardous substances can take long periods of time to develop, persons alleging harm from hazardous substances have sought to recover the costs of medical monitoring. In several cases involving plaintiffs exposed to carcinogens, the courts have permitted this claim, allowing as compensation the costs of physician fees and testing.

In the case involving Jackson Township,¹⁷ the New Jersey Supreme Court ruled that the cost of medical surveillance is a compensable item of damage. Because the plaintiffs had used reliable expert testimony to prove the significance and extent of their exposure, the toxicity of the chemicals, the seriousness of the diseases for which they were at risk, and the value of early diagnosis, the court ruled that surveillance to monitor the effect of exposure was reasonable and necessary. Similar decisions were reached in court cases in Pennsylvania,¹⁸ New York,¹⁹ and the Fifth Circuit Court of Appeals.²⁰

New Theories of Causation

Persons alleging harm from hazardous substances must overcome a difficult evidentiary burden in proving that their injuries were the result of exposure to a hazardous substance. Although courts have been reluctant to accept epidemiological studies showing statistical relationships between diseases and various causative factors, they have more recently allowed their use as evidence. For example, epidemiological studies were used as evidence in suits brought against tampon manufacturers by persons alleging harm from toxic shock syndrome²¹ and in suits brought against manufacturers of swine flu vaccines.²² Also, in one

¹⁶Ayers v. Township of Jackson, 202 N.J. Super. 106, 493 A.2d 1314 (1985), aff'd, No. A-83184, slip. op., N.J., May 7, 1987.

¹⁷Ayers v. Township of Jackson, No. A-83184, slip. op., N.J., May 7, 1987.

¹⁸Habitants Against Landfill Toxicants v. City of New York, 15 E.L.R. 20937 (1985).

¹⁹Askey v. Occidental Chemical Corp. 102 A.D. 130, 477 N.Y.S.2d 242 (1984).

²⁰Hagerty v. L & L Marine Services, 788 F.2d 315 (5th Cir. 1987).

²¹See, for example, Ellis v. International Playtex, Inc., 745 F.2d 292 (4th Cir. 1984).

²²See, for example, In re Swine Flu Immunization Products Liability Litigation, 508 F.Supp. 897 (D. Colo. 1981), aff'd sub nom. Lima v. United States, 708 F.2d 502 (10th Cir. 1983).

of the highly publicized Agent Orange suits, brought against the manufacturer of the herbicide by Vietnam War veterans and their families, a New York district court found that epidemiological studies were the "only useful studies having bearing on causation."²³ In this case, however, the studies concluded that there was no evidence that the veterans' exposure to Agent Orange led to their health problems.

Alternative Theories of Liability

Several theories of liability have been developed, some just in recent years, that alleviate the plaintiff's burden of identifying the responsible defendant in cases where there are two or more defendants. Although none of these theories has yet applied in a hazardous waste case, they have been used in analogous cases and therefore might be available to persons seeking to show harm from hazardous waste. Each theory has certain distinct requirements that might limit its usefulness, however. These alternative liability theories are:

- Concert of action. Under this widely accepted theory in tort law, if the plaintiff can show that the defendants acted together in furtherance of a common plan, they are jointly and severally liable for all injuries to the plaintiff, without regard to which defendant actually caused the harm. In a case against a manufacturer of DES (diethylstilbestrol), a cancer-causing drug, the plaintiff was not able to identify the specific brand of DES ingested, but the defendant was held liable under the concert of action theory because there was evidence that the manufacturers of DES had joined in some form of common action. The finding of concerted action was based on the original cooperation by DES manufacturers in the approval process to market DES: pooling data, agreement on the same basic chemical formula, and model literature to be used as the package insert for joint submission to the Food and Drug Administration.²⁴ Because of the difficulty of proving a common action in a hazardous waste case, however, which could involve disposers, generators, and prior and subsequent landowners, among others, acting at different times, this theory might have only limited utility.
- Alternative liability. Also a widely accepted theory, alternative liability allows a plaintiff to recover, even though it may not be known which of several defendants (not acting in concert) actually caused the injury. The theory was developed in a 1948 case in which two hunters shot at

²³In re "Agent Orange" Product Liability Litigation, 611 F.Supp. 1223, 1231 (E.D.N.Y. 1985)

²⁴Biehler v. Eli Lilly & Co., 436 N.Y.S.2d 625, aff'd, 436 N.E.2d 182 (N.Y. 1982)

the same time, one shot accidentally hit the plaintiff. The plaintiff, however, could not determine which hunter had fired the wounding shot. Rather than requiring the plaintiff to determine the responsible hunter, the alternative liability theory shifted the burden to each hunter to prove that his bullet was not the one that injured the plaintiff. Here too, however, this theory may be of only limited use in hazardous waste cases, since plaintiffs must still prove that all of the defendants were negligent.

- Enterprise liability More recently developed, enterprise liability combines features of both concert of action and alternative liability theories. It allows the burden of proof of causation to be shifted onto the defendants in cases where companies followed an industry-wide practice that the defendants knew to be harmful and that could have been avoided. Enterprise liability might be applied in a hazardous waste case by treating a particular waste site as an enterprise and apportioning liability among defendants on the basis of the volume and toxicity of the wastes they disposed of at the site. However, it would likely prove difficult, if not impossible, to measure the relative toxicity of each defendant's share, a problem that would be further complicated if the defendants included facility operators, landowners, and transporters as well as hazardous waste generators. For the same reason—a variety of types of defendants—it might not be possible to demonstrate a common practice.
- Market share liability Under this theory, a plaintiff may sue some portion of the manufacturers of a particular product, so long as they represent a substantial percentage of the market. Like alternative liability, the theory has been applied in cases where it is unclear which of several defendants is directly responsible for the injury. The difference between the two theories is that instead of being held jointly and severally liable (or fully responsible for the entire injury), under market share liability, each defendant is liable in proportion to its share of the industry market. In another DES case, the plaintiff, unable to name the manufacturer of the pills her mother had ingested that had caused her cancer, sued 11 of the 200 companies that had manufactured DES.²⁵ The court applied the market share liability theory, requiring each defendant to prove that it had not produced the DES used by the plaintiff's mother. Unable to do so, each defendant was found liable for a percentage of the plaintiff's injury based on its share of the market for DES. Thus, for example, if the manufacturer had sold 10 percent of all DES sold, it was responsible for that portion of the plaintiff's injury. Although a hazardous waste site might be considered a "market" under this theory, it would still prove

²⁵Sindell v. Abbott Laboratories, 26 Cal 3d 588, 163 Cal Rptr 132; 607 P.2d 924 (1979) cert. denied 449 U.S. 912 (1980)

difficult to apportion liability because of the different types of parties involved (generators, operators, etc.) and the different types and toxicity levels of the substances stored at a single site.

Victim Compensation Statutes

Recognizing the difficulties facing plaintiffs in common law suits, four states—California, Florida, Minnesota, and New Jersey--have enacted legislation to provide compensation to victims of hazardous substances.

Minnesota's 1983 victim compensation law holds any person responsible for the release of a hazardous substance to be strictly liable for all economic damages, as well as for death, personal injury, or disease resulting from the release. The act defines damages for personal injuries and death to include the costs of medical treatment, rehabilitation, burials, loss of income, and pain and suffering. Although the Minnesota law originally held responsible parties jointly and severally liable, this provision was repealed in 1985.

The Florida and California statutes create state compensation funds for victims who are unable to seek compensation from the responsible party. The California Hazardous Substances Account Act, enacted in 1981, provides compensation to victims either because they cannot identify the source of the hazardous substance, or because the responsible party is insolvent. In these cases, victims may be compensated for all of their uninsured medical expenses and up to a certain amount of income lost as a result of physical injuries or property damage. The fund is comprised of taxes levied against hazardous waste handlers in California.

The Florida Hazardous Waste Management Trust Fund, established in 1980, is a cleanup fund that also provides compensation for real or personal property damage resulting directly from the release of hazardous substances. In both Florida and California, persons alleging harm from hazardous substances may also attempt to obtain any remedies available under common law. If another party is subsequently found liable, the liable party must reimburse the state fund.

New Jersey's Spill Compensation and Control Act, enacted in 1976, provides a fund for cleanup as well as the payment of real and personal property damage. Liability under the New Jersey law is strict; and after paying out damages to the victim, the fund may seek recovery from the responsible parties.

Tort Reform Legislation

At the same time that court decisions and a few state laws have made it somewhat easier for persons alleging harm from hazardous waste to attempt to recover for damages and injuries, a number of states have enacted legislation that may make it more difficult to obtain compensation. A growing number of states have in the last couple of years enacted so-called tort reform legislation that changes tort law doctrines, such as joint and several liability and punitive damages, and sets limits on noneconomic damages and attorneys' fees. In particular, these states have moved to limit

- joint and several liability, so that plaintiffs must prove liability of each defendant,
- punitive and noneconomic damages, thus restricting the amount that the victim can receive, and
- attorneys' fees to hold down costs

With these changes, it could become more difficult for persons alleging harm from hazardous substances to receive compensation because (1) they must prove the liability of each defendant, (2) their award will be limited by a cap, and (3) it may be more difficult to obtain legal counsel with a limit on the amount of compensation that can be earned.

Table 4.1 shows that for 1986 and 1987, 24 states had enacted legislation to modify or abolish joint and several liability, although 9 made exceptions for pollution cases. Also, 12 states placed a cap on noneconomic damages, limiting the maximum award victims can receive for such damages as pain and suffering and emotional distress. Four states placed limits on attorneys' contingency fees. Limits on punitive damages were also established in 17 states in 1986 and 1987.

Chapter 4
**Legal Liability Standards and Remedies for
 Cleanup and Compensation**

**Table 4.1 Tort Reforms Enacted in 1986
 and 1987**

State	Abolish/ modify joint and several	Limit		
		Punitive damages	Non- economic damages	Attorneys' fees
Alabama		X	X ¹	
Alaska	X	X	X	
Arizona	X ^b			
California	X			
Colorado	X	X	X	
Connecticut	X			X
Florida	X ^b	X	X ^c	
Georgia	X	X		
Hawaii	X ^b		X	X
Idaho	X ^b	X	X	
Illinois	X ^b	X		X
Iowa		X		
Kansas		X	X	
Louisiana	X			
Maryland			X	
Michigan	X			
Minnesota		X	X	
Missouri	X	X		
Montana	X			
New Hampshire		X	X	X
New Mexico	X			
New York	X ^b			
Nevada	X ^b			
North Dakota	X	X		
Oklahoma		X		
Oregon	X		X	
South Dakota	X	X		
Texas	X ^b	X		
Utah	X			
Virginia		X		
Washington	X ^b		X	
Wyoming	X			

^aApplies only to medical malpractice cases

^bExcludes pollution cases

^cThe 1986 enacted cap was struck down by the state court in 1987

Source: Table based on data supplied by the American Tort Reform Association

These reforms limit the ability to seek recovery for injuries or property damage differently, which could result in victims' receiving different compensation for similar harm in different states. However, the impact of these changes on insurance claims payments for victim compensation is unclear. Our work on medical malpractice insurance, which is also affected by state initiatives in tort reform, led us to conclude that few state tort reforms were perceived as having a major effect on claims or awards.²⁰ We found that virtually every state, in response to the mid-1970s malpractice insurance crisis, enacted legislation modifying one or more aspects of its tort law governing medical malpractice. Although some of these reforms have since been declared unconstitutional, repealed, or allowed to expire, our report concluded that, with few exceptions, tort reforms have not had a significant impact on the number of claims filed, size of awards, or cost of insurance.

Conclusions

Insurers claim that CERCLA's liability standards, particularly joint and several liability, are an extreme impediment to the availability of pollution insurance. We believe that this may overstate the impact of these standards on current and future facilities that handle hazardous wastes. For instance, insurers have told us that they are concerned that generators who dispose of their hazardous wastes at a common disposal facility could become jointly and severally liable if the disposal facility did not have adequate resources to clean up its site and the site became eligible for cleanup under CERCLA. We recognize that some currently regulated disposal facilities may possibly become future CERCLA sites. However, RCRA regulations now prescribe the standards of care that must be followed by all hazardous waste facilities, and they require evidence of financial responsibility on the part of all owners and operators who are fully liable for hazardous waste releases at their facilities.

Moreover, although CERCLA's standard of strict, joint and several liability (which was designed to facilitate the cleanup of the nation's hazardous waste sites) holds persons connected with hazardous waste liable for hazardous waste releases, the extent to which their insurers will be held liable is still being decided in the courts (as discussed in ch. 5). It is therefore uncertain whether the insurers' financial capacity to write new insurance will be substantially affected by CERCLA cleanup costs.

²⁰Medical Malpractice: No Agreement on the Problems or Solutions (GAO/HRD-86-50, Feb 24, 1986).

Regarding compensation for bodily injury and property damage caused by pollution, there is little information available on the number of persons who may have actually been harmed by hazardous waste and there are relatively few published court decisions in victim hazardous waste cases. In this area, too, it is unclear how legal changes affecting alleged hazardous waste victims have affected insurance availability. Indeed, the majority of changes that have occurred at the state level were intended to limit liability. On the other hand, the willingness of some courts to permit recovery by persons seeking compensation for harm from hazardous substances—whether on new theories and types of evidence or on theories and evidence which had earlier been rejected, represents a significant change.

Whether persons harmed by hazardous substances will find it more or less difficult to obtain recovery in the future will depend largely on courts' decisions and whether other state legislatures follow suit by enacting legislation to limit liability. However, with the exception of the federal rule for commencement of state statutes of limitations, victims' legal remedies vary under state law. If the number of perceived victims becomes substantial or if they are believed to be unfairly compensated, it may be appropriate for the Congress to consider again the issue of remedies for victims under federal law, which could include modifying state rules governing proof of causation and apportionment of damages.

Judicial Trends in the Interpretation of Insurance Contracts

Contract interpretation in pollution liability cases is currently unsettled. In the last two decades, the language used in standard commercial liability insurance contracts has undergone several changes and additions. In judicial decisions involving insurance contracts in pollution liability cases, the courts in recent years have focused on several key contract terms in resolving at least four common issues. They have often interpreted the key contract terms in different (and even opposite) ways—sometimes favoring the insurer, sometimes favoring the insured party.

According to representatives of the insurance industry, courts are interpreting insurance contracts far more broadly than the insurers intended (such as with regard to on-site cleanup costs), thereby holding insurers liable to pay large claims on risks that they never intended to insure and for which they have collected no premiums. Insurers believe that these broad interpretations expressly ignore the plain meaning of insurance policies for perceived public policy reasons. Insurers cite this situation as being a major cause of their withdrawal from the pollution insurance market. With respect to future insurability of pollution risks, insurers also claim that court interpretations have made it extremely difficult for them to draft new policy language that would enable them to reenter the pollution liability market. Insurers maintain that this lack of uniformity has created an unsettled underwriting and pricing environment that is unlikely to diminish until the courts agree on the nature of coverage provided by insurers.

Judicial diversity of opinion is not surprising or uncommon when, as in this situation, various state and federal courts simultaneously apply previously uninterpreted contract language to new situations. Furthermore, the court cases applying this contract language to pollution liability have been brought only recently, and many are still being appealed. Given this situation, the case law in this area should be viewed as being in an embryonic state.

We believe that while uniformity of insurance contract interpretation has not emerged in cases applying such contracts to pollution releases, court decisions rendered so far have given insurers some basis on which to draft future pollution liability policy terms that would more clearly define intended limits of pollution coverage. Some changes that may help insurers in this regard are discussed at the end of this chapter.

The Development of Pollution Insurance: A Legal Perspective

Insurers have provided comprehensive general liability (CGL) policies for U.S. businesses since about the 1880s. Generally, under such policies, insurers agree to assume liabilities that befall the insured party due to accidental personal injury or property damage, relating to property, persons, and losses covered by the policy. Certain pollution-related liabilities were not specifically excluded until the late 1960s and early 1970s, when the nature and cost of chemical pollution became more evident.

At that time, insurers changed key words and terms in the CGL policies, and also added a "pollution exclusion" clause, which insurers now claim was intended to exclude coverage for pollution incidents that develop gradually and potentially involve high claims costs. These contract changes, which figure prominently in disputes between the insured and the insurer over contract coverage, are discussed in detail below.¹

Court Interpretations of Contracts in Pollution Insurance Cases

There are two primary reasons why the determination of coverage for damages due to hazardous substance releases have often ended up in the courts. First, CGL policies written prior to the 1970s often were not specific regarding coverage of pollution risks. Second, references to pollution risks that were specified in some later policies presented interpretive questions regarding hazardous substance releases. The litigation often involved coverage under CGL policies for

- claims for property damage or personal injury brought by persons alleging that the insured party caused such damage by their release of hazardous substances, and
- claims for the cost of cleaning up hazardous waste releases.

These suits over insurance contract coverage are generally subject to the laws and legal precedents of individual states.

Our review of relevant decisions found that courts have tended to focus upon certain key contract terms. In the subsections that follow, we focus on judicial decisions involving five key contract issues that have been important in defining contract coverage in pollution cases. These issues are:

¹See also, Hazardous Waste, Toxic Tort, and Product Liability Insurance Problems, Sheila L. Birnbaum, Practising Law Institute (1986), *The Comprehensive General Liability Policy, A Critique of Selected Provisions*, Arthur J. Liederman, Ed., ABA Tort and Insurance Practice Section, ABA (1985).

1. Disputes over determining the time at which an accident or occurrence took place that triggers the insurance coverage.
2. Disputes over how to determine whether a pollution claim involves one or more than one occurrence.
3. Disputes over whether the pollution exclusion excludes from coverage damage resulting from an insured's release.
4. Disputes over whether pollution cleanup costs are covered "damages."
5. Disputes over whether costs incurred in cleaning up an insured's property are covered under the "owned property" exclusion.

To the lay person, many meanings assigned to contract language may seem to bear little relation to common usage of the term. However, when liability contracts are disputed, the court's job is to determine which side's interpretation is "right" so that it may affirm or deny liability. In its effort to rule on liability, the court must carefully scrutinize the language of the contract, upon which the whole dispute hangs, and must more precisely define and interpret words than is generally done. Courts have examined not only dictionary definitions of disputed terms, but the intended meanings of the words given the overall structure of the contract, as well as the history of the terms as used in older versions of CGL policies. As a result, courts have found words in contracts to have both broader and more specific meanings or interpretations than the general population may attach to them.

Oftentimes, CGL policy language is considered ambiguous by courts applying it to hazardous substance release damages. Where the courts hold an insurance contract is ambiguous, they often view favorably the position of the insured, because the insurer is presumed to have an advantage over the insured in that the insurer wrote the contract and may have dictated the contract's terms.

Before discussing the five key contract issues, it is important to understand the concept of the insurer's "duty to defend" and the evolution of the terms "accident" and "occurrence."

Duty to Defend the Insured

Typically, general liability insurance policies call for the insurer not only to indemnify the insured, but also to defend the insured in claims brought against the insured. For instance, one CGL policy drafted in 1966 contained the following language creating the insurer's duty to defend the insured:

"the [insurance] company shall have the right and duty to defend any suit against the insured seeking damages on account of bodily injury or property damage, even if any of the allegations of the suit are groundless, false or fraudulent. . . "

In an era of burgeoning and reportedly expensive hazardous waste litigation, this duty is an important aspect of insurance protection.

In other contexts, courts have long interpreted these duty-to-defend provisions broadly in liability insurance contracts, holding that they serve to protect insureds against the expenses of defending any arguably covered claims against them.² Thus only if the damages are not even arguably covered by the policy does the insurer have no duty to defend. Because the insurer's obligation to defend is broader than its obligation to pay for alleged damage, an insurer may not ultimately be liable for damages claimed in such suits against insureds.

In the hazardous substance release context, many cases decided to date involving insurance issues have considered the insurer's duty to defend on claims brought against an insured. Because an insurer's duty to defend is broader than its obligation to indemnify, insurers may defend insureds responsible for damages resulting from the release of hazardous substances, but face no liability for such damages. Therefore, litigation expenses currently incurred by insurers may not indicate their future liability for damages.

In examining an insurance policy to determine whether the insurer must defend the insured, the courts focus on the same key phrases and terms as when determining coverage for any damages an insured is liable to pay as a result of litigation. These provisions are discussed below.

²See, generally, 14 Couch on Insurance 2d sections 46, 51 (rev. ed. 1985), 7C Appleman, Insurance Law and Practice sections 4684, 4685 (Betal ed. 1979 and Supp. 1987) (hereinafter cited as Appleman).

Evolution of the Terms "Accident" and "Occurrence"

Many liability policies written before the 1960s covered liabilities resulting from what the insurance contract referred to as "accidents." The term "accident" was usually not defined in policies, and courts differed in their interpretation of the word.¹⁷ For instance, courts differed over whether the fact that an action was done intentionally precluded the resulting injury from being considered an "accident" eligible for coverage under the terms of the CGL policy. An example of this situation would be the intentional dumping of a flammable liquid into a sewer system, which triggers an explosion killing several firefighters. While dumping was intentional, the resulting injuries to the firefighters might be viewed as accidental because the injuries were neither expected nor intended.

In deciding cases on the basis of the interpretation of "accident," some courts viewed the expectedness or unexpectedness of the resulting injury from the victim's point of view. If the injury was accidental from that vantage, the loss was held covered by liability insurance. Other courts judged the expectedness of the injury from the standpoint of the insured.¹⁸ For example, if a trespasser vandalizing an insured's property causes a release of hazardous substances and is injured by the release, the insurance coverage for the injuries would be determined by asking whether the insured expected such injury to result, not whether the vandal expected injury to flow from the accident.

Perhaps in a move to clarify the types of incidents covered under the contracts, the term "accident" was replaced and amplified by the term "occurrence" in standard CGL policies during the 1960s. The term "occurrence" was at first defined in the policies to mean "an accident, including injurious exposure to conditions, which results during the policy period, in bodily injury or property damage neither expected nor intended from the standpoint of the insured." A later revision of the CGL policy in the 1970s defined an occurrence as "an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured" (emphasis added). This revision also shifted reference to the timing of the injury or damage to the provisions defining bodily injury and property damage. Both definitions noted that the injury or damage must occur within the policy period to be covered.

¹⁷A Appleman section 4492, Pfennigstorf, *Environment, Damages, and Compensation*, 1979 A.B.F. Res. T 432-38, 1 R. Long, *The Law of Liability Insurance*, section 115 (1976).

¹⁸A Appleman section 4492-02 (Bental ed. 1979 and Supp. 1987).

These two definitions of "occurrence" established several criteria for coverage that were previously unspecified in insurance policies. For instance, the language specifically covers "not only the usual accident, but also exposure to conditions that may continue for an unmeasured period of time."⁶ The policy language changes, confirmed by judicial interpretation, also established that the injury resulting from an accident or occurrence, but not necessarily the accident or condition leading to the injury, must take place during the policy period in order for coverage to exist. Additionally, the definition notes that the expectation of injury is viewed from the insurer's standpoint. Furthermore, under the revised definitions of "occurrence," it is clear that the unexpectedness or unintendedness of the resultant damage, not of the accident or condition causing the damage, is a criterion for coverage.

The changed wording thus provided greater clarity in many respects. However, when cases involving the application of these policies to releases of hazardous substances arose, courts found that several issues were not squarely resolved by the contract language. For instance, the contracts did not specify when long latency diseases, such as cancer, would be deemed to have caused injury, and they did not establish a standard for determining the number of occurrences resulting from a release. Each of these issues, and others relating to different contract provisions, has been the subject of varying, nonuniform judicial interpretation and will be discussed below.

Decisions Regarding the Trigger of Coverage

The trigger of coverage refers to the determination of when the damage occurred for which a claim is made. In order to establish the date when damage occurred and, therefore, the policy covering the damage, a characterization of the damage must be made. In the hazardous substance release context, damage could be viewed as occurring at the time of exposure to the substance, at the time injury or harm is sustained due to the exposure, at the time disease, injury or harm becomes apparent, or any combination of the above.

⁶3 R Long, The Law of Liability Ins., App-53 (1976)

⁶The definition of "occurrence" in CGI standard form policies was changed by ISO in 1986 to mean "an accident, including continuous or repeated exposure to substantially the same general harmful conditions." The policy states that the insurer "will pay those sums that the insured becomes legally obligated to pay as damages because of 'bodily injury' or 'property damage' to which this insurance applies." The insurance policy also provides that it covers only damage or injury occurring during the policy period, and that is caused by an "occurrence." See subsequent discussions for a description of the revised pollution exclusion.

The trigger of coverage becomes a particularly important issue in cases involving gradual pollution and long-latency diseases caused by pollution, where insurers may debate their liability to cover damages that occurred years ago but have just recently been confirmed or recognized. In such cases, the timing of events associated with the incident that caused the harm may be difficult to establish, thereby leaving open the question of whether or not covered damage fell within the policy period.

In deciding trigger-of-coverage issues in cases involving asbestos and other chemical exposures, the state and federal district and circuit courts have employed the following four different approaches to determining when the physical injury or damage was sustained:⁷

- Injury-in-fact This theory sets the date of personal injury at the time of actual physiological change, regardless of whether or not the injury was diagnosable at that time. For instance, a person exposed to asbestos would be deemed injured under this theory when the asbestos actually caused harm to the person's body. This could have been years after exposure, but years prior to the development of any symptoms or diagnosis of the disease.⁸
- Initial exposure. Under this theory, bodily injury is deemed to have occurred upon the initial exposure to the toxic substance that caused bodily tissue damage. Thus, the person suffering asbestosis in the 1980s would be deemed to have suffered injury in the prior years when exposure took place—which could have been as long ago as the 1960s. This theory leads to liability attaching under each occurrence policy in effect at the time exposure occurred.⁹
- Manifestation Under this theory, bodily injury or damage is held to have occurred at the time it becomes “manifest,” apparent, or reasonably ascertainable. In other words, once the person exposed to asbestos begins to experience symptoms of asbestosis, or when a medical examination could detect the disease, injury is deemed to have manifested itself.¹⁰

⁷See, generally, Developments in the Law, Toxic Waste Litigation, 99 Harv. L. Rev. 1458, 1579-82 (1986)

⁸American Home Products Corp. v. Liberty Mut. Ins. Co., 748 F.2d 760 (2d Cir. 1984).

⁹Insurance Co. of North America v. Forty-Eight Insulations, Inc., 633 F.2d 1212, 1219 (6th Cir. 1980), reh'g granted, 657 F.2d 814 (1981), cert. denied, 454 U.S. 1109 (1981), reh'g denied, 465 U.S. 1009 (1982)

¹⁰Eagle Picher Indus., Inc. v. Liberty Mut. Ins. Co., 682 F.2d 12, 19 (1st Cir. 1982), cert. denied, 460 U.S. 1028 (1983).

- **Multiple trigger.** The fourth theory finds coverage for damages from initial exposure through and including time of manifestation of bodily injury. Courts employing this rationale contend that damage actually may begin to occur upon exposure and that it may continue to take place up until and including the time that the resulting disease becomes manifest.¹¹

Because releases of hazardous substances often involve exposure to those substances, a court's adoption of one of the above theories may be crucial in determining coverage under a liability policy. For instance, if neighbors to a leaking hazardous waste facility are found to have developed leukemia due to exposure to the leaking substances, several different insurers might be liable for indemnifying the facility owners, depending upon the trigger theory adopted. Under the exposure theory, the insurer at the time of exposure would be liable. Under the manifestation theory, the insurer at the time the damage becomes manifest would face liability. Similarly, the insurer at the time that an exposed person experiences physiological change due to the exposure would be liable for damages under the injury-in-fact theory. Under the multiple trigger rationale, however, all insurers from the time of exposure to the time of manifestation might be liable for coverage.

In government-ordered hazardous waste cleanup actions, the courts have not ruled uniformly on the trigger of coverage issue. The damages involved in cleanup actions have been found to take place at the time of release, at the time of discovery of release or harm, and at the time cleanup costs were assessed. One case recently decided in the federal court of appeals for the eighth circuit, for instance, ruled that "environmental damage occurs at the moment that hazardous wastes are improperly released into the environment and that a liability policy in effect at the time this damage is caused provides coverage for the subsequently incurred costs of cleaning up the wastes."¹²

A case decided in the federal court of appeals for the fourth circuit, however, held that because a hazardous waste release was not discovered within the insurance policy coverage dates, the insurer was not liable for reimbursement of the insured's cleanup costs.¹³ A lower federal

¹¹Keene Corp v Insurance Co of North America, 667 F.2d 1034 (D.C. Cir. 1981), cert. denied, 455 U.S. 1007 (1982), reh'g denied, 455 U.S. 951 (1982).

¹²Continental Ins. Co. v Northeastern Pharmaceutical & Chem. Co., Inc., 811 F.2d 1160 (8th Cir. 1987), reh'g granted, March 30, 1987.

¹³Mraz v Canadian Universal Ins. Co., Ltd., et al., 804 F.2d 1325 (4th Cir. 1986).

court has held that cleanup cost coverage is triggered when cleanup costs are assessed against an insured, while certain state courts have indicated that cleanup cost coverage is triggered by any continuing leakage of waste into the environment.¹⁴ Thus, an insurer's liability for cleanup costs may depend upon which trigger-of-coverage theory is applied by the court hearing its case.

Decisions Regarding the Number of Occurrences

Many insurance policies establish dollar limits to coverage on a "per occurrence" basis. In order to decide the extent of an insurer's liability, courts have been asked to determine how many occurrences can be said to take place as a result of a toxic substance release that affects several people or pieces of property. Generally, courts have held that the number of causes of the damage, and not the number of physical injuries or damaged properties, constitutes the number of occurrences under a liability policy. But again there has been no unanimity on this issue. A minority of courts have adopted a broader interpretation, characterizing the number of occurrences as the number of resulting injuries or damages flowing from the mishap.

One of the few cases to specifically address the question of the number of occurrences involved in the release of hazardous wastes is Township of Jackson v. American Home Assurance Co., et al., (Township of Jackson), now on appeal.¹⁶ In that case the municipality that oversaw a publicly-owned waste treatment and storage facility sought coverage under its liability insurance policy for damages caused by release of toxic chemicals from its facility into groundwater serving the wells used by nearby residents. The court found that "separate, independent causative events" involving the release of hazardous wastes into the environment comprised a "multitude of causes," each of which could have constituted an occurrence. The causes cited by the court included negligent siting, digging beneath the water table, providing inadequate cover, failing to inspect incoming tank trucks, and improper digging of waste cells. The court also noted that multiple occurrences took place under the minority "result" approach applied by some courts because the release of toxins into the groundwater had contaminated 97 separate wells.

¹⁴Idaho v. Bunker Hill Co., 647 F. Supp. 1064 (D. Idaho 1986), Industrial Steel Container Co. v. Fireman's Fund Ins. Co., C8 86-1135, C8 86-1197 (Minn. Ct. App. Jan. 13, 1987), Solvents Recovery Serv. of New England, Inc. v. Hartford Ins. Co., No. L-25610-83 (N.J. Super Ct. Dec. 4, 1986).

¹⁶Township of Jackson v. American Home Assurance Co., et al., No. L-29236-80 (N.J. Super Ct. Aug. 31, 1984) (Appealed, No. A-20138427), See also, Industrial Steel Container Co. v. Fireman's Fund Ins. Co. (Minn. Ct. App. Jan. 13, 1987).

The court in Township of Jackson did not decide on which of these two theories to rest its determination of multiple occurrences taking place. The court noted that under either approach, the number of occurrences established, multiplied by the amount of money the policy provided for each occurrence (\$500,000), was sufficient to cover the award for which the insured sought reimbursement. Therefore, as a result of the court's ruling, the insurer was held liable for the entire award to the victims. However, until the appeals are completed, the issue of defining the number of occurrences in this case will not be fully resolved.

A court's interpretation of the number of occurrences that result from a hazardous substance release would be of great significance to insurers whose policies with insureds responsible for such releases did not contain an aggregate limit to coverage. Such companies are at risk of facing liability for the maximum number of occurrences specified in the policy and, because of the large awards possible in such cases, the maximum dollar amount for each occurrence. However, it is important to note that decisions involving this issue in the hazardous substance release context are sparse, and case law in this area might well not follow the Township of Jackson analysis.

Decisions Regarding the Pollution Exclusion Clause

Pollution exclusion clauses were added to standard form CGL insurance policies in the 1970s. Insurers told us that pollution exclusions were added because of their growing perception of the potentially high cost of providing blanket coverage for pollution damages, especially those involving damage from gradual pollution.

The pollution exclusion contained in a widely used standard CGL policy form developed in 1970 read as follows:

"It is agreed that the insurance does not apply to bodily injury or property damage arising out of the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere or any water-course or body of water, but the exclusion does not apply if such discharge, dispersal, release or escape is sudden and accidental."¹⁶

¹⁶Standard form claims made and occurrence CGL policies developed in 1986 by ISO contain a pollution exclusion that excludes coverage for "[a]ny loss, cost, or expense arising out of any governmental direction or request that [the insured] test for, monitor, clean up, remove, contain, treat, detoxify or neutralize the pollutants." It also generally excludes injury or damage "arising out of the actual, alleged or threatened discharge, dispersal, release or escape of pollutants" at various locations over which the insured has control.

Chapter 5
Judicial Trends in the Interpretation of
Insurance Contracts

There is great disparity of opinion in the courts regarding interpretation of the pollution exclusion developed in 1970 when applied to hazardous substance releases. Many courts ruling on pollution exclusion clauses have held that contracts containing them are ambiguous as regards the damage that is covered. For instance, the Court of Appeals of Washington State noted in 1983 that

"the liability insurance policy on the one hand covers an 'occurrence,' which by policy definition includes conditions which are continuing in nature (as the insured argues), while on the other hand the pollution exclusion clause in the policy excludes from coverage damages arising out of the escape of liquids, gases and other substances unless the escape is sudden. Both cannot be true, yet both positions are reasonable, hence the policy is ambiguous and requires judicial interpretation."¹⁷

Several courts have also noted that the words "sudden and accidental" in the exclusion are not defined in the liability policies in which they appear and do not have obvious meaning when applied to hazardous substance releases.¹⁸ Consequently, those courts have looked elsewhere to determine their meaning, dictionaries, the overall structure of the contract, history of the provision, or, in some cases, to indications of intended meanings of the words by the parties to the contract. In so doing many courts have held that the word "sudden" in the exclusion is not limited to an instantaneous happening and therefore could refer to releases that may have lasted for a prolonged period.¹⁹ Several courts have also viewed "sudden" as synonymous with "accidental." In one case, sudden was read to mean "happening without previous notice or on very brief notice; unforeseen; unexpected, unprepared for."²⁰

Other courts, however, have interpreted "sudden" more temporally, "as describing an abrupt or precipitant event. . ."²¹ Courts accepting this

¹⁷United Pacific Ins. Co. v. Van's Westlake Union, Inc., 664 P.2d 1262 (Wash. Ct. App. 1983). See also, City of Northglenn v. Chevron U.S.A. Inc., 634 F. Supp. 217 (D. Colo. 1986), Lansco, Inc. v. Dept. of Environmental Protection, 350 A.2d 520 (N.J. Ch. Div. 1975), aff'd, 368 A.2d 322 (N.J. App. Ct. 1976), cert. denied, 372 A.2d 322 (1977).

¹⁸Buckeye Union Ins. Co. v. Liberty Solvents and Chem. Co., Inc., 477 N.E.2d 1227 (Ohio Ct. App. 1984), Lansco, Inc. v. Department of Environmental Protection 368 A.2d 363 (N.J. Ch. Div. 1975), aff'd, 368 A.2d 322 (N.J. App. Ct. 1976), cert. denied, 372 A.2d 322 (1977).

¹⁹Jackson Township Mun. Utilities Auth. v. Hartford Accidental and Indem. Co., 186 N.J. Super. 156 (1982).

²⁰Lansco, Inc. v. Department of Environmental Protection, 368 A.2d 363.

²¹Waste Management of Carolinas, Inc. v. Peerless Ins. Co., 24 E.R.C. 1001, 1007 (N.C. Sup. Ct. 1986); City of Milwaukee v. Allied Smelting Corp., et al., 344 N.W.2d 523, 527 (Wis. Ct. App. 1983).

view of "sudden" differ as to whether the release, the dispersal of toxins through the environment, or the resulting damages need be "sudden." For instance, one state court found that the possibly sudden release of pollutants into the environment was of greater import than any subsequent gradual permeation of pollutants into the environment.²² "The behavior of the pollutants in the environment, after release, is irrelevant to" the pollution exclusion, the court noted.

In another early case, where both discharge and dispersals of pollutants occurred and the dispersal but not the discharge may have been sudden and accidental, the court held that coverage was not avoided under the pollution exclusion.²³

Many courts have considered whether the damage resulting from a release had to be accidental to fall outside the pollution exclusion or whether the accidental nature of the release itself was required for the exclusion not to apply. A common view among courts has been that "sudden and accidental" in the pollution exclusion referred to the nature of the resultant damages.²⁴ Under this interpretation, the pollution exclusion thus merely served to underscore the exclusion of intended or expected damage from coverage, which was also specified in the definition of occurrence.²⁵

Very recently, some courts have held the pollution exclusion to be more expansive, thus resulting in more limited coverage for such releases.²⁶ In these cases, coverage has been deemed to exist under liability policies only if the release itself, along with the resulting damage, was accidental. Under this view, even if damage resulting from an expected or intended release was unexpected, coverage would be denied under the pollution exclusion if the release was not accidental.

²²Travelers Indem Co v Dingwell, 414 A 2d 220, 225 (Me Sup Ct 1980)

²³Farm Family Mut Ins Co v Bagley, 409 N Y S 2d 294, 296 (N Y App Div 1978)

²⁴Farm Family Mut Ins Co v Bagley, 409 N Y S 2d 294, Jackson Township Mun Util Auth v Hartford Accident and Indem Co, 451 A 2d 900 (N J Super Ct 1982), Buckeye Union Ins Co v Liberty Solvents and Chems Co, Inc., 477 N E 2d 1227

²⁵See, Hurwitz and Kohane, The Love Canal Insurance Coverage for Environmental Accidents, July 1983 Ins Counsel J 378, 379

²⁶Waste Management of Carolinas, Inc v Peerless Ins Co, 24 E R C 1001, Transamerican Ins Co v Sunnes, 711 P 2d 212 (Or Ct App 1985), reh'g denied, Feb 14, 1986, cert denied, 717 P 2d 631 (April 22, 1986)

Many courts have decided that when pollution is a natural consequence of the insured's business—particularly when toxic releases are continuous—no covered occurrence takes place, and property damage resulting from the pollution is excluded by the pollution exclusion.²⁷ Such decisions rest upon the presumption that releases that occur continuously and concomitantly with the insured's activities are not "sudden and accidental," and that resulting damages could not have been "unintended or unexpected."

Courts Disagree on Coverage of Property Damage

Two federal courts of appeals have reached conflicting conclusions as to whether costs associated with government-ordered cleanup of hazardous substance releases are covered under CGL policy language.²⁸ This policy language often provides coverage for sums that the insured becomes legally obligated to pay because of property damage caused by an occurrence and that occurs during the policy period. At present, the two federal courts of appeals that have addressed the issue have decided differently as to whether cleanup costs are covered under the CGL policy.

In Continental Insurance Companies v. Northeastern Pharmaceutical and Chemical Co., Inc., the court ruled that the CGL policy did cover cleanup costs that the government sought to recover from a pharmaceutical company.²⁹ The court held that the damage to the environment caused by the hazardous waste was a form of property damage under the policy. Even though the government did not own the contaminated land, the court noted, it did have a property interest on behalf of its citizens, and the environment generally, including the contaminated area, so that damage to the environment could be characterized as property damage to the government. The court found that CERCLA is consistent with this reading.

Although several lower federal courts and the New Jersey courts have reached similar conclusions, the Court of Appeals for the 4th Circuit has ruled that the CGL policy did not cover CERCLA cleanup costs for which

²⁷Great Lakes Container Corp. v. National Union Fire Ins. Co., 717 F.2d 30 (1st Cir. 1984), American Mut. Liberty Ins. Co. v. Neville Chem. Co., No. 84-1614 (W.D. Pa. Jan. 7, 1987), American States Ins. Co. v. Maryland Casualty Co., 587 F.Supp. 1549 (E.D. Mich. 1984).

²⁸Continental Ins. Cos. v. Northeastern Pharmaceutical and Chem. Co., Inc., 811 F.2d 1180, Mraz v. Canadian Universal Ins. Co., Ltd., 804 F.2d 1325.

²⁹Continental Ins. Cos. v. Northeastern Pharmaceutical and Chem. Co., Inc., 811 F.2d 1180.

the insured was held liable.¹⁰ The court in Mraz v. Canadian Universal Insurance Co., Ltd. held that government-ordered cleanup costs constitute an economic loss, not property damage covered under the policy. In that case the insurer was not held liable for reimbursement of the insured's cleanup costs.¹¹ In Maryland Casualty Co. v. Aringo, Inc., the Federal Court of Appeals for the 4th Circuit also found that the insured's liability for cleanup costs did not consist of "damages" as established in the CGL policy, but was more in the nature of an equitable order for relief.¹² Thus, the insurer was held not liable for reimbursement of the insured's cleanup costs. The distinction between damages and equitable orders is rooted in the difference in our justice system between actions brought in law and actions brought in equity. Liabilities deriving from actions in law are termed "damages," while orders that emanate from actions in equity may be described by other terms. In hazardous waste site cleanup cost recovery suits, many insurers have argued that cleanup cost recovery suits brought by the federal and state governments are more in the nature of actions in equity than of actions brought in law, and thus that CGL references to coverage of "damages" do not apply to cleanup costs.

To date, state courts have differed in their analysis of this issue, and no clear consensus has surfaced.¹³ The eventual resolution of this issue is key, however, to determining whether hazardous waste site cleanup costs will be borne in part by insurers.

Decisions Regarding the Owned Property Exclusion

Many CGL policies provided specific "owned property" exclusions for damage to property owned or controlled by the insured. As characterized by insurers, the owned property exclusion protects an insurer from becoming a guarantor of the insured's workmanship in his ordinary

¹⁰United States v. Conservation Chem. Co., No. 82-0983 CV-W 5, 12 CWLR 518, 519 (W.D. Mo. July 10, 1986), Independent Petroleum Corp. v. Aetna Casualty and Surety Co., No. 83-3347 (D.D.C. 1986), Solvents Recovery Serv. of New England, Inc. v. Midland Ins. Co., No. L-25610 83, 12 CWLR 398 (N.J. Super. Nov. 17, 1986).

¹¹Mraz v. Canadian Universal Ins. Co., Ltd., 804 F.2d 1325.

¹²Maryland Casualty Co. v. Aringo, Inc., No. 86-3125 (4th Cir. July 7, 1987) (Available July 20, 1987, on LEXIS, Genfed Library US App file).

¹³Internacional Mineral and Chem. Co. v. Liberty Mut. Ins. Co., No. 84-150979, 12 CWLR 581 (Ill. Cir. Ct. Jan. 6, 1987), CPS Chemical v. Continent Ins. Co., No. L-000537 84 (N.J. Super. 1987), Solvents Recovery Serv. of New England, Inc. v. Midland Ins. Co., 12 CWLR 398, Kutsher's Country Club Corp. v. Lincoln Ins. Co., 465 N.Y.2d 136 (N.Y. Sup. Ct. 1983), U.S. Aviac. Co. v. Travelers Ins. Co., 336 N.W.2d 853 (Mich. Ct. App. 1983).

operations. The insurers maintain that insurance has never been available for maintenance-type activities, and that the vast majority of insurers are unwilling to provide coverage for cleanup of the policyholder's own property in order to maintain the incentive for the policyholder to manage and police his own property in a responsible fashion.

Several courts have held that owned property provisions do not exempt the insurer from liability for the cleanup of property owned by the insured when such cleanup is necessary to halt property damage to a third party or when cleanup of groundwater below the insured's property is involved.³⁴ For example, in the Michigan case United States Aviox Co. v. Travelers Ins. Co., the court ruled that groundwater is not the property of the landowner and so does not fit within the owned property exclusion.³⁵ The policy was thus determined to apply to the costs involved in correcting the groundwater contamination beneath the insured's land. In addition, several New Jersey courts and one lower federal court have ruled that cleanup of contaminated land owned by the insured is covered by CGL policies containing owned property exclusions when such cleanup is necessary to prevent contamination to a third-party's property.³⁶ The courts have noted that the policy exclusion does not specifically address coverage of owned property damage when it leads to third-party damage and that contamination to the third party's property would continue unless cleanup of the insured property took place.

In another New Jersey case, Summit Associates, Inc. v. Liberty Mutual Fire Co., the court also held that the owned property exclusion did not apply to the cleanup costs undertaken by an insured who innocently purchased property that was contaminated by prior owners.³⁷ Noting the state's strong interest in protecting the environment, the court ruled

³⁴United States v. Conservation Chem. Co., 12 CWLR 518, Broadwell Realty Serv., Inc. v. Fidelity and Casualty Co. of New York, No. L-081194-84 (N.J. Super. May 23, 1986) (Letter Opinion); E.C. Electro Plating, Inc. v. Federal Ins., No. L-062919-85, 11 CWLR 696 (N.J. Super. Feb. 18, 1986); Bankers Trust Co. v. Hartford Accident and Indem. Co., 518 F. Supp. 371 (S.D.N.Y. 1981), vacated, 621 F. Supp. 685 (S.D.N.Y. 1981). See also, Fireman's Fund Ins. Co. v. Ex Cello Corp., et al., No. 85-71371, slip op. (E.D. Mich. May 18, 1987), United States Aviox Co. v. Travelers Ins. Co., 336 N.W.2d 838.

³⁵U.S. Aviox Co. v. Travelers Ins. Co., 336 N.W.2d 838.

³⁶United States v. Conservation Chem. Co., 12 CWLR 518, Broadwell Realty Servs., Inc. v. Fidelity and Casualty Co. of New York, (N.J. Super. May 23, 1986) (Letter Opinion), E.C. Electro Plating, Inc. v. Federal Ins., 11 CWLR 696. See also, Bankers Trust Co. v. Hartford Accident and Indem. Co., 518 F. Supp. 371, vacated, 621 F. Supp. 685.

³⁷Summit Assocs., Inc. v. Liberty Mut. Fire Ins. Co., No. L-47287-84, 12 CWLR 1094 (N.J. Super. Feb. 2, 1987).

that when innocent purchasers of contaminated land incur cleanup costs, such costs should not be excluded from coverage under the owned property exclusion, because, among other reasons, the inability of landowners to pay for cleanup costs could lead to the depletion of the state's cleanup fund.

Environmental Liability Insurance

By the late 1970s and early 1980s, as instances of widespread damage resulting from the gradual release of hazardous substances at Love Canal, New York, and other sites became known, coverage for damages resulting from all but sudden and accidental pollution had been excluded from many CGL policies. By 1986, pollution coverage was virtually excluded from standard CGL policy forms and was available only by endorsements to such policies (see fns. 6 and 16). In 1981, however, the insurance industry developed a new policy, generally referred to as Environmental Impairment Liability (EIL) insurance, to provide coverage for gradual and sudden pollution. As noted in chapter 2, these EIL policies are, at present, generally not being marketed.

EIL policies—the standard form, as well as those drafted by individual insurers on their own—typically provide coverage for property damage as well as for bodily injury and other economic loss caused by pollution. Pollution is characterized in such policies by various terms, all of which contemplate a broad range of containment releases.

The standard pollution liability policy developed by the Insurance Services Office (ISO) in 1981 covered both sudden and gradual pollution incidents.⁹⁸ This policy enabled owners and operators of hazardous waste treatment, storage, and disposal facilities to comply with federal responsibility requirements contained in the Resource Conservation and Recovery Act of 1976. The policy covered policyholder liability for bodily injury and property damage resulting from either sudden or gradual pollution and for cleanup costs. Although we could not determine the extent to which this policy form was being used, insurance trade association officials told us that it has not been widely marketed.

We are aware of no significant litigation involving the terms of these most recent EIL insurance contracts, although it is always possible that

⁹⁸ISO is a national, voluntary association of property and casualty insurance companies that makes available advisory rating, statistical, actuarial, policy form and related services to U.S. property/casualty insurers. ISO is also a major statistical agent for the insurance industry that collects, summarizes, and reports on insurance companies' premiums and claims losses. State regulators use these data to make certain that insurance rates are not excessive, inadequate, or discriminatory.

cases involving the terms of EIL contracts may arise in the future. The cases referred to in this chapter primarily focus on pre-1986 CGL policies.

Changes in Contract Language May Make Liability More Predictable

Given the controversy over basic coverage terms in CGL contracts, we were asked by the Congress to determine whether "amendments in the language of" applicable insurance contracts and "the description of risks assumed" could affect judicial interpretation of the contracts. While we cannot predict precisely how new contract language might be applied by courts to individual situations, certain possible changes in language seem likely to clarify the contracts, and thus to render the liabilities covered under them more predictable.

Contract Amendments to Clarify Terms of Coverage

One change in a pollution liability endorsement to the standard form CGL policies, which is currently being considered by ISO, applies to sudden pollution coverage. The language eliminates the word "sudden," but in its place notes that "the [pollution] exclusion [contained in the CGL policy] does not apply to emissions that begin on a clearly identifiable day and last no longer than 15 days thereafter." This reference to the 15-day duration of a covered emission firmly establishes a calendar-specific time frame for releases as a criterion of coverage. With such contract language before them, courts would thus be likely to recognize a time limit to coverage of releases, a key dispute in recent litigation over the term "sudden" in relevant contracts. Therefore, if this language is employed, coverage might be less likely to be found for gradual releases under applicable policies or endorsements.

Another change in policy language adopted by a major insurance company clarified the method of determining the number of occurrences that might arise from the release of hazardous wastes. Under one such policy, the insurer considers as one loss all damages "arising out of the same or related pollution conditions at any one location." This language thus attempts to bypass two issues: (1) whether the cause or the effect theory of an occurrence should dictate the number of occurrences and (2) how many occurrences result from related releases at a single hazardous waste site. Because courts have differed over their treatment of these issues under prior CGL policies, clearer treatment of them as described above should lead to greater predictability in coverage.

Litigation over interpretation of the "owned property" exclusion indicates that greater specificity in that provision would clarify its application to hazardous waste cleanup costs. Language stating whether exclusion of coverage for damage to the insured's property includes cleanup costs incurred to alleviate damage to a third party's property would improve upon language currently being interpreted by the courts.

Contract Amendments Reducing Potential Risks to the Insurer

In 1981 ISO made final a "claims-made" environmental liability policy form, and in 1986 completed a claims-made CGL policy that excluded pollution coverage, except through endorsement. The two key features of this and other claims-made pollution liability contracts are that (1) coverage is provided only for claims filed during the policy period and (2) even if a claim is brought during the policy period, coverage is provided only for damages that take place during the policy period or during some preceding period—the so-called retroactive period—specifically defined in the policy.

Depending upon the retroactive date of the policy, claims-made policy coverage could exclude most prior damages caused by releases of hazardous substances. The policy is thus largely prospective in coverage. Because both the damage and the presentation of the claim must occur during the period specified in the policy coverage dates, and because the policy extends from the first policy's coverage date to the current policy's coverage period if the policy is continuously renewed, maintaining policy coverage is essential to recovery by the insured. Because of the potential for nonrenewal of a policy, which would end an insured's entitlement to coverage for past damages, the risks assumed by an insurer under a claims-made policy appear greatly reduced, compared with old "occurrence" CGL policies, which could cover claims filed after the policy period expired.

Although some insurers adopted this form in an attempt to limit expenses by reducing coverage, how the courts may interpret the claims-made environmental liability policy is still uncertain, largely because the form is greatly altered from prior occurrence-based liability contracts, about which a substantial body of cases has been developed.

Another change in pollution liability insurance contracts that might reduce potential coverage would be one that specifies that disputes over coverage be decided by an arbitrator rather than through the court system. While this change does not constitute any clarification of prior language, it would attempt to reduce the defense costs attendant to

litigation over both the insurer's duty to defend and indemnity obligations. The use of arbitration, if freely agreed to by both the insured and the insurer, could significantly reduce costs, because the procedures are greatly simplified in the arbitration process, although the lack of case precedent which would result could lead to revisitation of the same issue, and accompanying expenses.

Many insurance contracts applicable to pollution releases limited coverage to a fixed dollar amount per pollution incidence or occurrence. Some contracts also limited coverage on an aggregate basis so that, no matter how many incidences or occurrences took place, the insurer could be liable up to only the aggregate amount stated in the policy. By limiting coverage on an aggregate basis for pollution claims, insurers should be able to reduce their liability. This is particularly the case because hazardous substance releases might be characterized in future litigation as multiple incidences or occurrences—each entailing large damages. The magnitude of insurers' current potential liability may be due, in part, to the insurers' not including aggregate limits in prior policies.

Conclusions

In an increasing number of cases between insureds and insurers, courts across the nation are deciding whether CGL policies provided coverage for on-site cleanup costs and off-site damages resulting from the release of hazardous substances. In deciding such cases, courts are focusing on certain key terms in the contracts, such as "accident," "occurrence," and the wording of the pollution exclusion clause. Interpretations of these terms are varied, which should not be surprising because the several courts are simultaneously deciding cases that involve novel applications of relatively new or ambiguous contract provisions. Also, many of the cases we reviewed were still involved in the appeals process. The variety that now exists in analysis of coverage issues may, therefore, change when the cases reach final decisions.

One critical provision being interpreted in coverage contests is the pollution exclusion. Courts have found coverage for various types of releases, despite the language of this exclusion, by employing a wide range of rationales. Courts have also established several criteria for determining when damage occurs under liability policies, ranging from the time a release occurs to the time when physical injury or damage becomes manifest. The method for determining the number of occurrences—an issue not addressed in most liability policies—has similarly been decided in a few key cases, and will likely be a heavily-litigated issue. With regard to

hazardous waste cleanup cost coverage, courts have reached no consensus as to when such damages should be deemed to have occurred, and whether cleanup costs, such as at some CERCLA sites, should be covered as damages. Regarding future contracts, major property/casualty insurers told us that onsite cleanup costs would be excluded because they are uninsurable.

More precise contract language addressing these specific risks could make court interpretations of the contracts more predictable. Two examples of language currently contained in, or being considered for inclusion in, current policies are provided in this chapter. We believe that while judicial interpretations favorable to insurers on future contracts may not be assured, the likelihood of such outcomes will increase as experts within the industry draft more precise language addressing those issues currently being considered in the courts.

Frequency and Severity of Pollution Claims Closed During 1985

During CERCLA reauthorization hearings in 1985 and 1986, insurers expressed concern over the prospect of enormous losses from their pollution liability exposures under old CGL policies resulting from federal environmental liability standards (particularly CERCLA liability) and court decisions dealing with liability and contract interpretation. Yet, at that time, industry-wide data were not available on the actual pollution claims costs that insurers had incurred. In order to explore the extent of these costs, SARA section 208 directed us to review a sample of pollution claims closed during 1985—the year preceding the enactment of SARA—and to determine the frequency and severity of those claims.

Using surveys sent to 104 insurers, we found relatively modest frequency and severity levels for 1985 pollution claims. Of 75 insurers responding to our frequency survey, 25 reported that during 1985 they closed only 382 pollution claims with payment. Eighteen of these 25 insurers subsequently provided us with severity data on 200 of their closed claims. Indemnity payments on these 200 claims totaled about \$6,600,000. Although these results do not include data from some major insurers who did not reply to our surveys, we believe that the response obtained was sufficient to show the general character of pollution claims closed during 1985.

Insurers maintain that the relatively low frequency and severity levels found in our surveys are due to the fact that 1985 pollution claim closures generally involved easily resolved claims with relatively small settlements. The insurers strongly maintain that 1985 closed claims are not indicative of the magnitude of the thousands of open pollution claims that are pending closure or that will eventually be reported against old CGL policies. They contend that these impending claims will involve much greater payments.

Our survey does not provide a basis for making projections about the magnitude of these impending claims. In order to make such projections, more pollution claim closures—and data on these closures—are needed, particularly with regard to the claims associated with CERCLA and RCRA cleanups.

Data-Gathering Methodology

Since the insurers we met with believed that the number of 1985 closed pollution claims would be very small, we decided that representative sampling was methodologically inappropriate; instead, we attempted to survey every 1985 pollution claim closed with payment.

To do this, we contacted 104 insurance groups and individual insurance companies that were most likely to have written pollution insurance in the past and asked for frequency and severity data on all pollution claims that they closed with payment during 1985. We also asked for some basic information on their open pollution claims in order to gauge the extent of their unresolved claims. The 104 insurers included (1) the top 50 writers of "other liability," the insurance category under which most pollution insurance would be written; (2) all past and current members of PLIA; and (3) other insurers known by us to have written pollution insurance. We also included several major U.S. reinsurers to determine if they had written any direct pollution insurance.

We gathered the closed claims data by mailing to the insurers two short questionnaires, one on frequency and a second on severity. (The questionnaire forms are in app. III.) Participation in the survey was voluntary, since we do not have authority to require the insurers to respond. To encourage a good response rate, we extended a pledge of confidentiality to the insurers, promising that only summaries of aggregated data would be used in this report. We did not verify the survey responses because insurers consider their claims files to be confidential. A more detailed discussion of our survey methodology is found in appendix II.

Frequency of 1985 Pollution Claims

Of the 104 insurers to whom we sent our frequency survey, 75 responded with data.¹ Among these 75 respondents were 41 of the top 50 writers of "other liability" insurance (including all of the top 10, and 16 of the top 20). As indicated in table 6.1, the respondents reported closing relatively few pollution claims.

Table 6.1: Frequency of 1985 Pollution Claims for 75 Responding Insurers

Claims status	Number of claims
Closed during 1985 with payment	362
Remaining open at the end of 1985	11,915

It is important to recognize that frequency is a count of the number of individual pollution claims. The number of pollution claims is not equivalent to the number of pollution incidents. For example, one pollution incident may result in several claims within one insurance company or

¹The cutoff date for our frequency survey was July 31, 1987. In addition to the 75 insurers who responded with data, 10 others responded that they were unable to provide us with the requested data.

among several insurance companies. With regard to the 11,915 open claims, insurers reported that only 697 involved EIL policies.

In table 6.2, the responding insurers are sorted into three groups, depending on their pollution claims activity in 1985.

Table 6.2: 1985 Pollution Claims Activity of 75 Responding Insurers

Claims activity	Number of Insurers
Had both open and closed pollution claims	25
Had only open pollution claims	25
Had no open or closed pollution claim	25
Total	75

As table 6.2 indicates, 50 of the 75 responding insurers had some sort of pollution claims activity in 1985. Most of this activity was concentrated within a small number of companies. Of the 382 claims closed, 296 are accounted for by 5 insurers (each of which reported closing 30 or more claims). Of the 11,915 open claims reported, 8,014 of them were accounted for by 9 insurers (each of which reported having 600 or more open claims).

Severity of 1985 Closed Pollution Claims

To determine the severity of the 382 closed claims, we sent a second set of questionnaires to the 23 of the 25 insurers that reported closing claims with payment.² We instructed the insurers to complete one questionnaire for each of their closed claims. The questionnaires asked the cost of the claim's indemnity payment, as well as some basic information on the type of insurance policy involved, the policy dates, the insured's business, the nature of the incident leading to the claim, and the amount of legal costs expended by the insurer in resolving the claim.

As of August 17, 1987, 18 of these 23 insurers responded to our severity questionnaires, providing us with data on 200 claims closed with an indemnity payment to the insured.³ These claims, nearly all of which involved CGL policies, resulted in payments totaling nearly \$6,600,000.

²Two insurers responded to the frequency questionnaire too late to be included in the severity survey.

³We received an additional 25 surveys providing information on claims closed without payment to the insured. We excluded these from our tabulations because our data request was only for claims closed with payments.

**Cost of Pollution
 Indemnity Payments**

We asked insurers to provide the total cost of each indemnity payment made for pollution claims closed during 1985. Specifically, these cost data were to include any lump-sum payments, as well as the cost to the insurer of any annuity purchased for future structured payments on the claims. To ensure that we were capturing the complete cost of the claims payments, we instructed the respondents to provide the total cost to their company prior to any amount they recovered from their reinsurers on the claim. (Ordinarily, the cost of a claim payment is borne by the primary insurer who wrote the policy, and by one or more reinsurers who assume part of the risk in return for a portion of the premium.) Since we asked respondents to report separately the legal costs associated with these claims, they are not included in these indemnity payment figures.

For the 200 claims for which we received responses, insurers paid out \$6,607,906. The indemnity payments ranged from under \$100 to about \$1,000,000, with the average payment being \$33,040. However, most of the claims were settled for considerably less than that, since the median payment was only \$5,000.⁴ Tables 6.3 and 6.4 break down the total payment figure by the insured's activity and the primary nature of the incident leading to the claim.

Table 6.3: Distribution of Indemnity Payments According to Insureds' Activity

Insureds' activity	Number of claims	Total amount	Average amount
Manufacturing	109	\$4,021,001	\$36,890
Petroleum	58	1,416,489	24,422
Mining/smelting/ore processing	3	294,824	98,275
Municipal waste treatment/storage/disposal	3	23,033	7,678
Commercial waste treatment/storage/disposal	3	510,445	170,148
Other	24	342,114	14,255
Total	200	\$6,607,906	

⁴The median is the midpoint in an ordered array of values. The median in this case indicates that half of the claims involve payments of \$5,000 or less.

Table 6.4: Distribution of Indemnity Payments According to Primary Nature of Incident

Nature of incident	Number of claims	Total amount	Average amount
Release associated with treatment, storage, and/or disposal of waste products	100	\$2,333,916	\$23,339
Release associated with petroleum	56	1,348,576	24,082
Release associated with manufacturing process	20	2,284,124	114,206
Release associated with transportation	12	274,666	22,889
Other	12	366,624	30,552
Total	200	\$6,607,906	

The most frequent pollution incident—releases involving the treatment, storage, or disposal of waste products—occurred at manufacturing locations. Regarding the 56 petroleum releases, at least 29 of the claims involved underground storage tanks, as noted in some of the responses.

We also asked for the purpose of the indemnity payments. Table 6.5 provides a breakdown of the responses by the number of claims and the amount.

Table 6.5: Distribution of Indemnity Payments by Purpose

Purpose of payment	Number of claims	Total amount	Average amount
Cleanup/property damage/natural resource damage	119	\$5,641,893	\$47,411
Bodily/personal injury	72	849,898	11,804
All purposes above	7	111,077	15,868
Other	2	5,038	2,519
Total	200	\$6,607,906	

As table 6.5 indicates, most of these payments were for actions involving pollution cleanup, compensation for property damages, and restoration of the environment damaged by pollution. We did not ask whether any of these claims were associated with CERCLA cleanups.

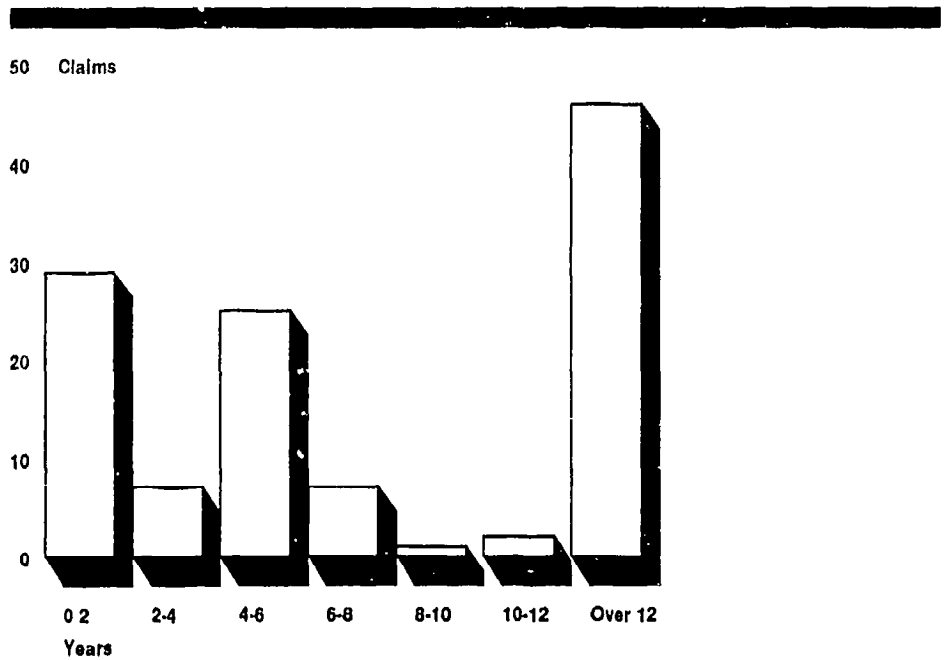
The "Tail" on Pollution Claims

The amount of time that can elapse between the end of the policy period and the date the claim is presented (called the "tail" by insurers) is an important issue in pollution insurance. Because pollution incidents and their effects on human health and the environment are not always detected promptly, many years may pass between the end of the policy

period and the presentation of a claim against that policy. For this reason, pollution liability is considered to be "long tail" by the insurance industry. Under "occurrence" policies, such as CGL policies, an insurer may be liable for pollution incidents that can be traced to the coverage period of an old policy, even though the policy period may have lapsed many years ago.⁶ Of the 200 closed claims for which we received severity questionnaires, 186 involved CGL policies. (Only 4 involved EIL policies, 10 involved other types of policies.)

In reviewing our questionnaire results, we found 78 claims were presented during the policy period and therefore had no tail, and 5 other responses had missing dates. The remaining 117 claims (all but 5 involving CGL policies) were presented after the expiration of the policy period. They had tails ranging from 1 month to 19 years, with the average being 7 years. Figure 6.1 shows the distribution of the claims by 2-year intervals.

Figure 6.1: The "Tail" on 117 Pollution Claims Closed in 1985



No values fall between the year groupings

⁶For a discussion of the terms of an occurrence policy, see ch. 5

Insurers have expressed concern about the possibility of large indemnity payments being made on very old policies. As figure 6.1 indicates, 46 claims had tails of more than 12 years. The payments on these claims totaled \$319,362. Nearly all of these claims stemmed from one pollution incident.

Legal Costs of Resolving Claims

Given the controversy over contract coverage (discussed in ch. 5), we asked whether the claim involved legal costs expended by the insurer in disputes with the insured party over terms of the policy's pollution coverage. In all, only five such disputes were reported. They all involved CGL policies, with legal costs totaling \$23,173 and averaging \$4,635 per claim (the median amount being \$4,019).

According to insurers, the legal costs of defending their insureds in lawsuits involving pollution claims can be substantial, and may in fact exceed the cost of the claim payment itself. Our questionnaire asked insurers whether their claims involved defense of such lawsuits and, if so, to specify the total dollar amount of legal expenses, court costs, and other related costs expended by the insurer in defense of the insured.

In all, 118 of the 200 closed claims involved the insurers' defense of suits brought by other parties against the insured.⁶ The total amount expended by the insurers in defending their insureds in these cases was \$2,247,670, averaging \$19,048 per case (the median was \$682). These 118 suits resulted in indemnity payments totaling \$4,348,157. (The average payment was \$36,349, the median payment was \$2,000.) Insurers reported that all but 3 of these claims were resolved through out-of-court settlements.

Limitations of Survey Results

When we developed our survey approach, insurers said that 1985 closed pollution claims would generally consist of relatively simple, inexpensive claims that could be resolved quickly. They predicted that our survey would show

- a low frequency of closed claims,
- relatively uncomplicated claims litigation, and
- low amounts of indemnity payments.

⁶Of these 118 lawsuits, 12 were brought by the federal government, 1 by a state government, 3 by county or local governments, 92 by citizens, and 10 by a combination of two or more of these parties.

The insurers strongly maintained that 1985 closed pollution claims would not be representative of the magnitude of their impending pollution liabilities resulting from past policies.

Given the fact that a number of insurers did not provide responses to our questionnaires, our results do not present a complete picture of the 1985 claims. Furthermore, we cannot be sure that the responses we obtained are representative of the complete picture. Also, given the small number of claims involved, it is possible that data on even a few additional claims not reported to us could significantly change average severity data. Nevertheless, we believe that enough insurers participated to give a good indication of the general character of 1985 pollution claims closed with payment, particularly since our survey results generally correspond to the insurers' predictions.

As predicted by insurers, the frequency of claims settlements is strikingly low, especially when contrasted with the much higher number of open claims (382 closed versus 11,915 open--about a 1:30 ratio). With regard to legal costs, only five of the claims involved disputes with the insured party over contract coverage, resulting in only about \$23,000 in legal costs to the insurers. Additionally, all but three of the claims involving the defense of the insured against lawsuits brought by other parties were reported to have been settled out of court, with insurers paying an average of only about \$19,000 per claim on defense costs. These data suggest that the claims generally did not involve prolonged litigation.

Perhaps the most important characteristic arguing for the simplicity of these claims is the low amount of the indemnity payments themselves. The 200 claims payments totaled only about \$6,600,000. And as indicated by the median payment of \$5,000, most of the claims involved far smaller payments than the average payment of about \$33,000 per claim.

Two other characteristics of the 200 surveyed claims that suggest their relative simplicity are noteworthy. First, only three claims involved pollution stemming from commercial treatment, storage, or disposal facilities--the type of facility that would be associated with CERCLA cleanups involving legal concerns over joint and several liability. Consequently, the surveyed claims may not have involved the liability concerns discussed in chapter 4, which insurers are most concerned about. Second, the surveyed claims did not involve costly bodily/personal injury settlements. Although 72 of the 200 settlements were exclusively for bodily/personal injury, only about \$860,000 was paid for them in total.

Our survey shows that the responding insurers generally did not make substantial pollution claims payments in 1985. However, since our survey represents only a slice of time, it does not provide a statistical basis for making projections about future pollution claims. Due to the small number of pollution claims that were closed in 1985 and the large number that remained open, it may take several more years of additional pollution claims experience before enough claims are closed to form a basis for making such projections. In the meantime, the extent of the insurers' impending pollution liability payments under old CGL policies remains an open issue.

Potential Usefulness of Additional Data on Pollution Claims

Although 50 insurers reported that they had nearly 1,900 open pollution claims at the end of 1985, we do not know how many of these will result in payments, let alone what the size of such payments might be.⁷ Our attempts to gather data on the amounts that insurers were reserving against open pollution claims were not successful because insurers consider this information to be confidential. Such information, in any event, might not be useful at this time. According to several major insurers, open pollution claims are generally still in a relatively immature phase of resolution, and it is difficult for insurers to estimate the ultimate expense of these claims.

As noted earlier, there was no central industry source on pollution indemnity payments at the time of CERCLA reauthorization in 1985-86. In 1987, however, ISO began to require insurers that reported data to it to indicate dollar losses due to environmental liability. These loss data will be broken down by payments for cleanup costs, property damage, and bodily injury. However, ISO's data will not capture all pollution claims. ISO's data are confined to data from CGL policies written by admitted insurers that form ISO's clientele.⁸ (ISO data represent about 75 percent of the commercial general liability market.) Pollution claims data for non-admitted surplus lines insurers are not being captured either by ISO or

⁷By way of comparison, 43 percent of an estimated 73,472 medical malpractice claims closed by insurance companies in 1984 were closed with payment. The average payment for injury was about \$81,000. The median was \$13,000. See Medical Malpractice: Characteristics of Claims Closed in 1984 (GAO/HRD-87-55, April 22, 1987).

⁸An admitted insurer is one licensed by a state insurance commissioner to sell insurance within the state.

the state insurance departments.⁹ In our review, we were not able to determine the extent to which surplus lines carriers wrote pollution insurance in the past and, consequently, do not know how significant the lack of surplus lines data will be. Since no existing regulatory mechanism requires the collection of pollution data from the surplus lines market, this data void may well continue in the future.

A limited and sharply focused data collection effort might be useful in determining the extent to which insurers pay for pollution cleanup efforts. For example, although EPA gathers data on the dollar amounts paid by responsible parties at individual CERCLA site cleanups, it does not have data on how much of the responsible parties' costs are ultimately borne by their insurers. Data on the insurers' CERCLA-related payments would be key information in evaluating the insurers' contention that they are bearing a large portion of the expense of cleaning up the nation's most hazardous waste sites.

Conclusions

Our survey of pollution claims closed during 1985 shows that only 382 such claims were closed by the 75 insurers who responded to us. Additional data on the severity of 200 of these claims shows that indemnity payments were relatively modest, totaling about \$6,600,000—with an average of about \$33,000 per claim (with a median claim of \$5,000). These 200 closed claims did not, on average, involve substantial legal costs to the insurers, either over contract coverage disputes with insureds or in defense of the insured in lawsuits involving third parties. These 1985 results, however, cannot be used to project the magnitude of pollution claims that have not yet been resolved. Of the 75 responding insurers, 50 reported that they had about 11,900 unresolved pollution claims at the end of 1985.

Data on pollution claims closed since 1985 would be needed to monitor the magnitude of the insurers' pollution claims costs. Beginning in 1987, ISO is gathering data on an ongoing basis from most of the commercial liability insurance market on their CGL pollution claims losses. However, these data will not capture pollution payments made by all insurers under all types of policies.

⁹A surplus lines insurer is a company that generally underwrites risks or parts of risks for which insurance is not available through a company licensed in the insured's state. This business is, therefore, placed with a nonadmitted insurer (a company not licensed in the state) in accordance with surplus lines provisions of state insurance laws (Source: A.M. Best.)

Matter for Consideration by the Congress

The extent to which insurers pay for pollution cleanups and related third-party bodily injury and property damage will almost certainly be raised by the insurance industry during the next CERCLA reauthorization. However, determining the amounts that insurers are paying is difficult because the industry does not have centralized, comprehensive data on these indemnity payments. Given this situation, we believe that the Congress should consider requiring insurers or responsible parties, as appropriate, to report to EPA the amounts of indemnity payments made to cover pollution cleanups and related third-party bodily injury and property damage.

Section 208 of SARA

SEC 208. INSURABILITY STUDY

Section 301 of CERCLA is amended by adding the following new subsection at the end thereof

"(g) INSURABILITY STUDY --

"(1) STUDY BY COMPTROLLER GENERAL -- The Comptroller General of the United States, in consultation with the persons described in paragraph (2), shall undertake a study to determine the insurability, and effects on the standard of care, of the liability of each of the following

"(A) Persons who generate hazardous substances liability for costs and damage, under this Act.

"(B) Persons who own or operate facilities liable, for costs and damages under this Act

"(C) Persons liable for injury to persons or property caused by the release of hazardous substances into the environment

"(2) CONSULTATION -- In conducting the study under this subsection, the Comptroller General shall consult with the following

"(A) Representatives of the Administrator

"(B) Representatives of persons described in subparagraphs (A) through (C) of the preceding paragraph.

"(C) Representatives (i) of groups or organizations comprised generally of persons adversely affected by releases or threatened releases of hazardous substances and (ii) of groups organized for protecting the interests of consumers

"(D) Representatives of property and casualty insurers

"(E) Representatives of reinsurers

"(F) Persons responsible for the regulation of insurance at the State level.

"(3) ITEMS EVALUATED -- The study under this section shall include, among other matters an evaluation of the following

"(A) Current economic conditions in, and the future outlook for, the commercial market for insurance and reinsurance

"(B) Current trends in statutory and common law remedies

"(C) The impact of possible changes in traditional standards of liability, proof, evidence, and damages on existing statutory and common law remedies.

"(D) The effect of the standard of liability and extent of the persons upon whom it is imposed under this Act on the protection of human health and the environment and on the availability, underwriting, and pricing of insurance coverage

"(E) Current trends, if any, in the judicial interpretation and construction of applicable insurance contracts together with the degree to which amendments in the language of such contracts and the description of risks assumed, could affect such trends.

"(F) The frequency and severity of a representative sample of claims closed during the calendar year immediately preceding the enactment of this subsection.

"(G) Impediments to the acquisition of insurance or other means of obtaining liability coverage other than those referred to in the preceding subparagraphs

"(H) The effects of the standards of liability and financial responsibility requirements imposed pursuant to this Act on the cost of, and incentives for, developing and demonstrating alternative and innovative treatment technologies as well as waste generation minimization.

"(4) SUBMISSION -- The Comptroller General shall submit a report on the results of the study to Congress with appropriate recommendations within 12 months after the enactment of this subsection."

Objective, Scope, and Methodology

The objective of this report is to provide the Congress with the information sought by section 208 of SARA concerning the insurability of activities involving hazardous substances. Section 208 required us to review the liability and standard of care associated with the generation, transportation, storage, and disposal of hazardous substances. In conducting our work, the act directed us to consult with representatives of generators of hazardous substances, disposal facility owners or operators, persons liable for injury, groups comprised of persons adversely affected by release of hazardous substances, groups organized for the protection of consumer interests, the Environmental Protection Agency, property/casualty insurers, reinsurers, and state insurance regulators.

This report concerns only the section 208 requirements. The other insurance and liability issues raised by the Congress in passage of SARA—cleanup contractor liability, post-closure liability, and petroleum tank liability—will be the subject of future reports. Environmental restoration insurance for the trucking industry was addressed in a May 1986 GAO report (Motor Carriers: The Availability of Environmental Restoration Insurance, RCED-86-150BR, May 19, 1986).

Because much of the data needed to perform this study are proprietary or unavailable in any readily accessible form, we relied on the voluntary cooperation of the insurance and hazardous substance industries. Specific data limitations are discussed in appropriate sections of this appendix.

SARA required an evaluation of eight specific issues, listed below (A through H).

(A) Current economic conditions in, and the future outlook for, the commercial market for insurance and reinsurance.

To determine the economic condition and outlook for commercial insurance, we reviewed the work already completed by GAO, the Congressional Research Service (CRS), and others on the economic conditions of the insurance industry and the data available in A.M. Best (the industry's statistical publication) on the economic conditions of the industry. However, the economic condition of the pollution line of the insurance market has not been documented, primarily because of the lack of specific pollution insurance data. As a result, we gathered data on this issue through discussions with insurance and reinsurance company executives, associations, and state regulators. We obtained opinions, anecdotal information, and other information on several issues:

- The status of the pollution insurance market as it relates to the economic condition of the industry as a whole.
- Which companies are writing pollution insurance, for whom, coverage provided, premiums charged, and the relative amount of premiums obtained by pollution liability insurance.
- Which companies have stopped writing pollution insurance and why.
- The lack of historical data on damages and risks needed to set premiums.
- The influence and control of insurers and reinsurers over the pollution liability insurance market.

In addition, we discussed with the insurance industry officials identified above the possible causes of observed changes in the pollution liability insurance and reinsurance markets and the impact on insurers of possible expansion and uncertainty of liability due to (1) recent court decisions under tort and other state and federal statutes and (2) technological uncertainty regarding the ability of waste handlers to safely store and treat hazardous materials.

Treatment, storage, and disposal facilities are required by RCRA to prove financial responsibility (with insurance being one method of doing this). We discussed the availability of pollution insurance with two associations representing TSDFs. To document financial responsibility requirements for TSDFs, we reviewed RCRA-mandated financial responsibility requirements and related implementing regulations. Through telephone contacts with hazardous waste officials in 15 states (Alabama, California, Colorado, Connecticut, Illinois, Indiana, Massachusetts, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, and Texas) that regulated 68 percent of the TSDFs, we obtained information on state financial responsibility regulations. From officials at EPA headquarters and in 8 of its 10 regional offices (Region I through VIII) and officials in the 15 states we contacted, we obtained estimates of the extent that insurance is used by TSDFs and the impact of not having insurance coverage. In addition, we spoke to 11 TSDF owners/operators to determine how they covered their pollution liability. We also reviewed data contained in EPA's Hazardous Waste Data Management System, the Consolidated Data Base developed for 1,538 land disposal facilities, and EPA's July 1985 survey of the Loss of Interim Status facilities.

Generators, however, are not required to have insurance or report how they insure. Given the time frame for this work, it was not practical to systematically survey the 100,000 generators of hazardous substances.

Generator insurability information was obtained primarily through discussion with four associations and five individual companies that volunteered to discuss this information with us. We also contacted three risk-retention groups that were in the formative stage and one that was unable to get started to determine the type and extent of coverage offered, membership, and premiums.

(B) Current trends in statutory and common law remedies.

To determine trends in remedies, we reviewed CERCLA and its 1986 amendments under SARA and case law for the standard of liability applied under CERCLA, as amended. In addition, we researched various potential liability situations that can arise in hazardous waste activities for parties that may be liable for releases. We also researched state statutes that provide remedies for personal injury and property damage caused by releases of hazardous substances. We researched court decisions and legal commentaries, such as the CERCLA 301(e) study, to determine common law causes of action and remedies for hazardous waste releases.

(C) The impact of possible changes in traditional standards of liability, proof, evidence, and damages on existing statutory and common law remedies.

To determine the impact of possible changes, we reviewed legal theories that have been developed in product liability cases that suggest possible changes in traditional standards in hazardous waste cases. We also reviewed state legislation to change tort law doctrines, such as joint and several liability and punitive damages, to determine how these changes might affect the ability of a victim to obtain a remedy.

(D) The effect of the standard of liability and extent of persons upon whom it is imposed under CERCLA, as amended, on the protection of human health and the environment and on the availability, underwriting, and pricing of insurance coverage.

On the basis of the information developed under issue B above, we discussed with insurance underwriters and risk assessors how the standards affect the availability, underwriting, and pricing of insurance. In addition, we discussed the standards with EPA officials to determine the impact on the financial responsibility requirement regulations.

(E) Current trends, if any, in judicial interpretation and construction of applicable insurance contracts, together with the degree to which amendments in the language of such contracts and the description of the risks assumed could affect such trends.

We reviewed legal articles and relevant cases that illustrate current interpretations of certain key terms and coverage contained in insurance policies, including "occurrence," "sudden and accidental," the insurer's duty to defend, and coverage of damage to the insured's property. We also reviewed the development over recent decades of contracts for comprehensive general liability insurance and environmental impairment liability insurance. We obtained from the Insurance Services Office Inc. copies of these contracts and discussed with members of the Environmental Litigation Insurance Association the impact of possible changes in insurance contract language.

(F) The frequency and severity of a representative sample of claims closed during the calendar year immediately preceding the enactment of this subsection.

In the early stages of this survey, we met with insurance association officials and were told that there was no central source for identifying the universe of insurers that offered pollution insurance, either as part of a CGL policy or as a separate EIL policy. Given this situation, the American Insurance Association (AIA) suggested that we include in our survey the 20 top writers of "other liability," an insurance category under which they said most pollution coverage would be written. We adopted this approach, but we expanded the number of insurers to include the top 50 writers of "other liability." We did this to ensure that we were capturing the pollution claims activity at the smaller insurance companies that each write less than 1 percent of "other liability." Altogether, these 50 insurers constituted over 80 percent of the "other liability" market share in 1985.

We also included all past and current members of PLIA. PLIA is a reinsurance pool formed in January 1982 to provide 100-percent reinsurance and necessary services for member insurers who wish to offer pollution insurance.

In addition, we included insurers who have been known to write pollution insurance but were not included in the two groups defined above. We identified these companies through interviews, trade publications, and EPA documents. Included among these were major U.S. reinsurers

whom we contacted to determine if they had written any direct pollution insurance.

In all, we contacted 104 insurance groups and companies. Although we aimed to be comprehensive in our survey and worked closely with insurance experts and associations in defining our target companies, we cannot determine the extent to which these 104 insurers include the entire universe of insurers who closed pollution claims in 1985.

Given the relatively short amount of time available to develop and administer the survey, as well as to analyze and report on the results, we kept the scope of the survey tightly focused on basic frequency/severity information. In developing the survey, we consulted insurance trade associations and companies on technical issues, such as the definition of a "closed" pollution claim, and the elements involved in measuring a pollution claim's severity. In the end, we decided to gather frequency and severity information by means of two short questionnaires sent directly to insurers. The first questionnaire gathered frequency data, and the second gathered severity data. Copies of these questionnaires are found in appendix III.

In our cover letters to the questionnaires, we noted that the insurers' participation in the survey was voluntary. We do not have authority to require their participation. However, we encouraged the insurers to complete the questionnaires by emphasizing the importance of the information to the Congress. We also encouraged participation by extending a pledge of confidentiality covering the data sent to us. We promised that no information on individual insurers would be included in our report — only summaries of aggregated data. As a further measure to insure the confidentiality of the data, the link between the mailing list and the company codes on the frequency questionnaires was broken at the conclusion of the survey. The severity questionnaires never contained insurance company identification numbers and remained anonymous. (The companies used a separate mailing to indicate that they had sent us their completed severity questionnaires.)

The survey results represent data provided to us by insurers. We did not attempt to verify these data, since insurers consider their claims files confidential.

(G) Impediments to the acquisition of insurance or other means of obtaining liability coverage other than those referred to in the preceding subparagraphs.

Other possible impediments were discussed with officials of all organizations contacted in carrying out this review.

(H) Effects of the standards of liability and financial responsibility requirements imposed pursuant to this act on the cost of, and incentives for, developing and demonstrating alternative and innovative treatment technologies and waste generation minimization.

To determine the effects of the standard of liability and financial responsibility requirements on alternative and innovative technologies, we contacted EPA officials and companies with new technologies to update past and ongoing GAO, Congressional Budget Office (CBO), Office of Technology Assessment (OTA), and EPA reports on RCRA and CERCLA concerning permanent disposal and minimization technologies. These studies include the GAO report, Hazardous Waste EPA's Consideration of Permanent Cleanup Remedies (GAO/RCED-86-178BR; July 7, 1986); OTA reports, Serious Reduction of Hazardous Waste for Pollution Prevention and Industrial Efficiency, (September 1986), Superfund Strategy (March 1985), and Technologies and Management Strategies for Hazardous Waste Control, (March 1983); and the CBO report, Hazardous Waste Management Recent Changes and Policy Alternatives (May 1985).

We also reviewed RCRA financial requirements and discussed with representatives of hazardous waste generators, handlers, and disposers, and the insurance industry the impact of insurance on new technology development and implementation.

As indicated above, we met with representatives of generators of hazardous substances, disposal facility owners or operators, persons liable for injury, groups comprised of persons adversely affected by releases of hazardous substances, groups organized for the protection of consumer interests, the Environmental Protection Agency, property/casualty insurers, reinsurers, and state insurance regulators. In addition to addressing specific audit issues with these representatives, we brought them together early in our work to review and discuss our approach to carrying out the mandates of the act.

Frequency and Severity Questionnaires

U.S. GENERAL ACCOUNTING OFFICE



Pollution Claims Survey
Response Form

For the purposes of this survey, "pollution claims" are defined as (1) those types of claims presented against direct insurance policies providing coverage for sudden and/or gradual pollution, e.g. Environmental Impairment Liability (EIL) insurance, and (2) any direct insurance claims of the same type presented against Comprehensive General Liability (CGL) or similar policies. Do not include workers' compensation and non-environmental products liability claims.

Use your own organization's definitions of "open" and "closed" claims.

NOTE TO INSURANCE GROUPS The data you provide should represent the aggregate number of pollution claims for all affected companies that are part of your insurance group. (Please call John Finedore or Erin Bozik (202)-382-4326 if group data is not available.)

- 1 For calendar year 1985, how many pollution claims did your group/company close with payment? (FILL IN NUMBER IF NONE, ENTER "0".)

NUMBER

Questions 2a-c, below, are included at the request of members of the insurance industry in order to help the Congress understand the extent of open pollution claims as of the end of 1985. Please provide this data if available.

- 2a. At the end of calendar year 1985, how many open pollution claims did your group/company have? (FILL IN NUMBER IF NONE, ENTER "0".)

NUMBER

- 2b. Of the number given in Question 2a, how many of these open claims were presented against EIL insurance? (FILL IN NUMBER. IF NONE, ENTER "0".)

NUMBER

- 2c. Of the number given in Question 2a, how many of these open claims were presented against CGL policies in which a review of the facts, applicable law, and policy provisions revealed no coverage defenses? (FILL IN NUMBER. IF NONE, ENTER "0".)

NUMBER

Please detach this response form from the cover letter and return the form in the enclosed addressed, postage-paid envelope. In the event the envelope is misplaced, the return address is:

Mr. Hugh Wessinger
U.S. General Accounting Office
Room 4073A
441 G Street, N.W.
Washington, DC 20548

Thank you for your participation in this survey.

Appendix III
Frequency and Severity Questionnaire



U S GENERAL ACCOUNTING OFFICE

Survey of Pollution Claims Closed During 1985

INTRODUCTION

For the purposes of this survey, "pollution claims" are defined as (1) those types of claims presented against policies providing coverage for sudden and/or gradual pollution, e.g., Environmental Impairment Liability (EIL) insurance, and (2) any claims of the same type presented against Comprehensive General Liability (CGL) or similar policies. Do not include workers' compensation and non-environmental liability claims.

To avoid the double counting that would result from including reinsurance data, report only those pollution claims presented against direct insurance policies and provide claim costs prior to and exclusive of any reinsurance recoverable on the claim.

Complete one survey form for each pollution claim closed between January 1, 1985 and December 31, 1985, that resulted in a payment.

All information gathered on this survey will be kept confidential by the U S General Accounting Office. The data provided by you will be aggregated with data provided by other insurance companies. Only summaries of the aggregated data will be used in reporting information to the Congress. In order to assure confidentiality, this questionnaire contains no company identification code. The company code is found on the attached postcard. Detach the postcard and mail it separately when you mail the completed questionnaire. The postcard will let us know that your company has responded. A self-addressed, postage-paid envelope is provided so you can return your questionnaire(s).

In the event that the return envelope for the questionnaire is misplaced, the return address is:

Mr. Hugh Wessinger
U S. General Accounting Office
Room 4076A
441 G Street, N.W.
Washington, DC 20548

If you have any questions about this survey, please call John Pinedore or Erin Bozik on (202) 382-4326.

1. Against what type of policy was this pollution liability claim presented? (CHECK ONE.)

1. Comprehensive General Liability
2. Environmental Impairment Liability
3. Other (SPECIFY) _____

2. On what date did the insured first present the claim against your company? (FILL IN MONTH AND YEAR.)

_____/_____
Month / Year

3. Under what period(s) of the policy was this claim paid? (FILL IN DATES)

FROM _____/_____
Month / Year

TO _____/_____
Month / Year

4. What is the primary business of the insured party? (CHECK ONE)

1. Manufacturing
2. Mining/Smelting/Ore processing
3. Commercial waste treatment/storage/disposal
4. Municipal waste treatment/storage/collection
5. Other (SPECIFY) _____

(QUESTIONS CONTINUE ON THE OTHER SIDE)

**Appendix III
Frequency and Severity Questionnaires**

5. What was the primary nature of the incident leading to this claim? (CHECK ONE)

- 1. A release associated with a manufacturing process
- 2. A release associated with the treatment, storage, and/or disposal of waste products
- 3. A release associated with transportation (air, land, or water)
- 4. Other (SPECIFY) _____

6. Were legal costs expended in a dispute between your company and the insured over the pollution coverage? (For example, a dispute over your company's duty to defend the insured) (CHECK ONE.)

- 1. No ----> SKIP TO QUESTION 8
- 2. Yes

7. What was the dollar amount of legal expenses incurred by your company in resolving this policy coverage dispute? (FILL IN DOLLAR AMOUNT)

\$ _____

8. Did this claim involve a suit against the insured? (CHECK ONE)

- 1. No ----> SKIP TO QUESTION 11
- 2. Yes

9. Please identify the party or parties that brought the suit. (CHECK ALL THAT APPLY)

- 1. Federal Government
- 2. State Government
- 3. County/Local Government
- 4. Citizen suit
- 5. Other (SPECIFY) _____

10. What was the total dollar amount of legal expenses, court costs, and other related costs expended by your company in defense of the insured? (DO NOT INCLUDE COSTS YOU REPORTED IN QUESTION 7.)

\$ _____

11. How was the amount to be paid on this claim determined? (CHECK ONE)

- 1. Out-of-court settlement
- 2. Jury/Judge award
- 3. Other (SPECIFY) _____

12. What was the total cost to your company of the settlement/award on this claim prior to and exclusive of any reinsurance recoverable by your company on this claim? (INCLUDE THE AMOUNT OF ANY LUMP-SUM PAYMENT AND/OR THE COST OF ANY ANNUITY PURCHASED FOR FUTURE STRUCTURED PAYMENTS.)

\$ _____

13. Which of the following were included under the terms of the settlement/award paid by your company on this claim? (CHECK ALL THAT APPLY.)

- 1. Cleanup (remedial/removal-type actions)
- 2. Allegations of property damage
- 3. Allegations of natural resource damage
- 4. Allegations of personal/bodily injury
- 5. Other (SPECIFY) _____

THANK YOU FOR
COMPLETING THIS QUESTIONNAIRE

Major Contributors to This Report

**Resources,
Community, and
Economic
Development Division,
Washington, D.C.**

Hugh J. Wessinger, Senior Associate Director, (202) 275-5489
Lawrence J. Dyckman, Group Director
Jeffrey E. Hell, Evaluator-in-Charge
John P. Finedore, Deputy Evaluator-in-Charge
Paul K. Marchetti, Economist
Alice G. Feldesman, Social Science Analyst
Wanda T. Hawkins, Evaluator
J. Erin Bozik, Evaluator
Diane B. Raynes, Evaluator
Steven M. Brown, Economist
Molly W. MacLeod, Reports Analyst

**Office of General
Counsel**

Barry R. Bedrick, Managing Attorney
Doreen S. Stoizenberg, Senior Attorney
Jane R. Sajewski, Attorney-Adviser

**Office of the Chief
Economist**

Randolph M. Lyon, Economist

Requests for copies of GAO publications should be sent to.

US General Accounting Office
Post Office Box 6015
Gaithersburg, Maryland 20877

Telephone 202-275-6241

The first five copies of each publication are free. Additional copies are \$2.00 each.

There is a 25% discount on orders for 100 or more copies mailed to a single address.

Orders must be prepaid by cash or by check or money order made out to the Superintendent of Documents.

**United States
General Accounting Office
Washington, D.C. 20548**

**First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100**

**Official Business
Penalty for Private Use \$300**

Address Correction Requested
