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ENVIRONMENTAL EMERGENCY RESPONSE ACT

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Mr. CULVER, from the Committee on Environment and Public Works, submitted the following

REPORT

[To accompany S. 1480]

together with

MINORITY, ADDITIONAL, AND SUPPLEMENTAL VIEWS

The Committee on Environment and Public Works, to which was referred the bill (S. 1480) to provide for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous waste disposal sites, having considered the same, reports favorably thereon with amendments and recommends that the bill as amended do pass.

PREFACE

The Committee reported a bill on June 27, 1980, which actually has its roots in the liability and funding provisions provided in the Clean Water Act of 1972. The current legislation, S. 1480, was introduced on July 11, 1979, and creates a liability and compensation scheme to address spills and all other releases of hazardous substances into the environment.

The Committee held a total of 11 days of hearings from March 28, 1979, to September 7, 1979, including 8 hearing days in Washington, D.C., and one each in Niagara Falls, New York, Charles City, Iowa, and San Francisco, California. A total of 74 witnesses gave public testimony at these hearings, which along with submitted testimony comprised 1,723 pages of printed record.

This report shall include a general statement which will discuss the problems addressed in S. 1480 and the goals and basic elements of the new legislation; a general summary of the reported bill; and a more specific analysis of major provisions.

GENERAL STATEMENT

I. THE PROBLEM

Modern chemical technology has produced miracles which have greatly improved this Nation's standard of living. But the increased generation of hazardous substances associated with these new products has proved to be a serious threat to our Nation's public health and environment.

The legacy of past haphazard disposal of chemical wastes and the continuing danger of spills and other releases of dangerous chemicals pose what many call the most serious health and environmental challenge of the decade. Chemical spills capable of inflicting environmental harm occur about 3,500 times each year, and an estimated $65 to $260 million is needed to clean them up. More than 2,000 dumpsites containing hazardous chemicals are believed by the Environmental Protection Agency to pose threats to the public health. The costs of containing their contents is estimated to be an average of $3.6 million per site.

Federal legislation has been passed and regulations have been developed which authorize government review of new toxic chemicals being placed on the market, and impose standards for new hazardous waste disposal facilities.

But the Committee on Environment and Public Works encountered additional national environmental problems caused by dangerous chemicals—problems which could not be addressed by the Toxic Substances Control Act or the Solid Waste Disposal Act. These problems involve the pollution of our people and our land by improper disposal, by accidents or misuse of those products.

Today, more than 43,000 chemical substances are in commercial production, and thousands of new ones are introduced each year. Worldwide chemicals sales of the top 50 U.S. chemical producers was $90 billion in 1979. In 1978, 32 of the 50 leading chemical producers had sales of more than $1 billion each, and 5 of those 50 had sales of $5 billion or more. The growth of the chemical industry was even greater in 1979 than in 1978. As a result, the potential impact of toxic chemicals on the general public and environment through unsound hazardous disposal sites and other releases of chemicals is tremendous.

The acceptance of man-made chemicals—to the extent that they are hardly recognized as such anymore—has become a fact of daily life in the United States. We are dependent on synthetic chemicals for health, livelihood, housing, transportation, food, and for our funerals.

But within recent years, there has been a realization that what is our meat may also be our poison.

Item.—On June 6, 1980 the Director of the National Institute of Environmental Health Sciences testified before the Senate Subcommittee on Health and Scientific Research as follows:

QUESTION. Is it likely that there is a person in this room who is not contaminated by some synthetic chemical?

Dr. RALL. * * * most unlikely.

There are a series of resident pesticides beginning with DDT, aldrin, dieldrin, heptachlor, chlordane and so forth. Most people carry traces of those compounds today.

The polychlorinated biphenyls, probably most people carry body burdens in their fat, on the order of 5 parts per million * * *

Over 95 percent of the people in the United States have detectable levels of pentachlorophenol * * * (which) is contaminated with significant amounts of hexa-, hepta-, and octachlorinated dibenzodioxins.

QUESTION. What sorts of health problems might these chemicals cause?

Dr. RALL. A great variety of health problems. The hexachlorodibenzodioxin is probably a carcinogen. Many of the other compounds can cause neurological or renal damage, cause mutations and so forth.

QUESTION. What is the size of the population at risk here?

Dr. RALL. * * * The size of the population could extend up to the entire population of the United States.

Item.—In a report dated March, 1980 the Library of Congress concluded that damages to natural resources of the United States because of toxic chemicals were "substantial and enduring." The report identified damaged resources ranging from all five of the Great Lakes to the aquifer underlying the San Joaquin Valley, possibly the richest agricultural area in the United States.

Item.—In a report to the President of the United States, the Toxic Substances Strategy Committee concluded that the cancer death rate in the United States had increased sharply and that "occupational exposure to carcinogens is believed to be a factor in more than 20 percent of all cases of cancer."

Item.—In a report released in the Spring of 1980, by the Office of Technology Assessment, agricultural losses because of chemical contamination were placed at $283 million. OTA said the value was based on economic data from only six of the fifty states and was therefore "likely to be a gross underestimation of the actual costs."

In 1979, the total production of chemicals in the United States was 565 billion pounds. Of this amount, 347 billion pounds was of chemicals officially classified by the United States government as hazardous. Production growth is increasing at a rate of 7.6 percent in 1979. At that rate, production will double in ten years.

HAZARDOUS WASTES AND WASTE SITES

The Environmental Protection Agency estimates that 57 million metric tons of hazardous wastes are produced annually in the United States, or about 600 pounds of hazardous wastes per American in a year, and that this amount grows at a rate of 3.5 percent per year. More than 90 percent of this waste is believed to be disposed of in environmentally unsound ways. These unsound disposal methods include

haphazard land disposal, improper storage of dangerous substances and illicit dumping.

The effects of poor disposal methods and abandoned waste disposal sites can be the contamination of surface water and groundwater, causing contamination of drinking water supplies, destruction of fish, wildlife and vegetation, and threats to public safety due to health hazards and threats of fires and explosions.

Because there is no required reporting or data collection system in any one centralized government agency, the evidence sustaining the conclusion that a grave problem exists is best presented by anecdotes and a variety of studies.

Examples of waste site incidents include:

At Toone, Tennessee, a chemical company dumped pesticide wastes for years in an area close to groundwater supplies. In 1978, after continued assurances to the community from government officials that their water was safe to drink, the water supply of Toone was found to be contaminated six years after the closure of the nearby landfill site.

In 1978, the Cedar River, near Charles City, Iowa, was found to contain poisons leached from a nearby dumpsite. The poisons were detected as far away as 60 miles downstream. This river and the aquifer underlying the dump supply drinking water to 10% of the State's population.

About 25 miles south of Louisville, Kentucky, 17,000 drums were disposed of at a seven acre site. Six thousand drums, in this area which became known as the "Valley of the Drums," were oozing toxic chemicals onto the ground. Other drums with hazardous contents were buried in subsurface pits. The Environmental Protection Agency identified approximately 200 organic chemicals and 30 metals in the drainage area.

A variety of recent studies and surveys highlight the scope of the problem:

Using existing documentation, the Agency identified some 250 hazardous waste sites involving damages or significant threats of damages. Among the reported incidents were 27 sites associated with actual damages to health (kidneys, cancer, mutations, aborted pregnancies, etc.), 32 sites which have resulted in the closure of public and private drinking water wells, 130 sites with contaminated groundwaters and 74 sites where natural habitats have been damaged and are adversely affecting indigenous species.

As of June 1, the Agency's Hazardous Waste Enforcement and Response Task Force has identified 5,790 hazardous waste sites which were to be investigated to determine whether problems requiring cleanup exist. The Agency had inspected 1,001 of these sites, and concluded that remedial actions are warranted at 342 sites. No action was deemed necessary at 221 sites, and investigations were continuing at the remaining sites inspected.

A survey requested by Representative Robert Eckhardt for the House Committee on Interstate and Foreign Commerce found 3,383 waste disposal sites used by the 53 largest chemical companies since 1950. Of these, one third (1,099) are outside any authorized Federal

regulatory scheme. These 1,099 sites include "orphan" sites and inactive sites with known owners and contain 100 million tons of chemical wastes. The survey found that since 1950, some 960 waste haulers were employed by the 53 largest chemical companies to transport 4.8 million tons of wastes to locations unknown to the companies. Eleven percent of the facilities (176) operated by these large companies reported they did not know where any of the wastes generated since 1950 were disposed, and 37 percent (594 facilities) did not know the disposal location of all of their chemical wastes. Not all of the wastes in this survey are hazardous.

A Department of Health and Human Services' report released in June, 1980 concluded that "the scope of the health problem that could derive from chemical waste dumps cannot be precisely estimated at present. The problem could be enormous".

The preliminary findings of a joint States/EPA survey of pits, ponds and lagoons used to treat, store and dispose of liquid wastes identify 11,000 industrial sites with 25,000 such surface impoundments. At least one-half of the sites are believed to contain hazardous wastes. The survey found that virtually no monitoring of groundwater was being conducted and that 30 percent of the impoundments, or 2,455 of the 8,221 sites assessed, are unlined, overlie usable groundwater aquifers and have intervening soils which would freely allow liquid wastes to escape into groundwater.

SPILLS AND OTHER RELEASES

The problem is much broader than those incidents involving disposal of hazardous substances. When confronted with an incident of toxic chemical contamination, it is often difficult to distinguish whether it is the result of a spill, a continuing discharge, an intentional dumping, or a waste disposal site. Any legislative solution would also have to address, in addition to disposal sites, the closely related problems of spills and other releases of dangerous chemicals which can have an equally devastating effect on the environment and human health.

Frequently, these releases have resulted in the contamination of drinking water and long-term contamination of wells, in massive fish kills, air pollution, loss of livestock and food products to contaminated drinking water and feed, and the destruction of wildlife.

Spills have taken place because of transportation accidents involving pipelines, trucks, rail cars, and barges or tankers, and also non-transportation facilities such as storage tanks, holding lagoons and chemical processing plants.

Thomas Jorling, the Assistant Administrator for Water and Waste Management for the Environmental Protection Agency, testified before the Subcommittees on Environmental Pollution and Resource Protection in 1979, saying:

> * * * there are about 3,500 incidents involving chemicals per year from sources which have the potential of releasing significant quantities of hazardous substances either onto land or into water. Of these, it is estimated that about 50 percent of 1,700 spills would reach navigable waters * * * there are about 700 to 1,200 significant spills per year.

Some examples of the type of accidents that have resulted from spills and other non-waste disposal incidents include:

—PCB's, a cancer-causing insulating fluid whose manufacture is now banned, leaked from an out-of-service transformer, entered the food chain and spread through 19 states and two foreign countries. Hundreds of thousands of hogs, chickens, turkeys, and a large quantity of other foodstuffs had to be destroyed.

—One-third to one-half of the drinking water and irrigation wells in the San Joaquin Valley have been contaminated by a pesticide, DBCP. In sufficient amounts, this pesticide is known to cause sterility in workers. It is suspected also of causing cancer.

—From 1970 to 1977, the number of railroad transportation incidents involving hazardous substances increased 700 percent. Fatalities increased by 300 percent. A witness from the National Transportation Safety Board testified that 85 percent of those releases would have been prevented by the installation of relatively inexpensive safety devices.

—Portions of Lakes Ontario and Erie have been closed to commercial fishing because of chemical contamination. The taking of coho salmon, stocked throughout the lakes to encourage a viable commercial and sport fishery, is banned because of chemical contamination.

Additional studies reveal that the spread of dangerous chemicals by spills and other incidents is presently a major environmental problem in this Nation:

—A 418 page report recently released by the Environmental Protection Agency contains information on 3,076 incidents (mostly spills) involving hazardous substances.[1] These incidents were reported voluntarily to the Agency over the last two years. Of the 1,766 incidents reported in fiscal year 1979, 42 percent involved non-transportation sources, 40 percent involved transportation sources, and 15 percent involved "mystery" sources. The majority of these hazardous substance spills involved releases to groundwater, air and land. The report appears to greatly underestimate the problem.

—The Congressional Research Service of the Library of Congress recently completed a catalogue of natural resources lost or destroyed through releases of hazardous or toxic substances.[2] It is almost 250 pages long, yet the Congressional Research Service says it is an incomplete effort. All of the reported incidents are essentially anecdotes.

—In a recent report, the Department of Agriculture identified surface water basins which were contaminated by chemicals.[3] These basins included practically the entire middle South.

In a report "Objectives for the Nation", working groups sponsored by the Department of Health and Human Resources identified toxic pollution as one of the 15 priority areas for preventing disease and promoting health.

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[1] "Hazardous Materials Incidents Reported to U.S. Environmental Protection Agency Regional Offices from October 1977 through September, 1979" EPA, January, 1980.

[2] "Resource Losses From Surface Groundwater, and Atmospheric Contamination: A Catalog, by the Congressional Research Service, Library of Congress, for the Committee on Environment and Public Works, U.S. Senate, March 1980.

[3] "Program Report and Environmental Impact Statement" Soil and Water Resources Conservation Act, U.S. Department of Agriculture (Review Draft), 1980.

BEFORE LOVE CANAL

Long before shocking incidents at Love Canal gained wide attention and propelled the problems of inadequate hazardous chemical waste disposal into the national spotlight, other incidents involving the spilling of hazardous substances and oil gave rise to a legislative response which passed the Senate in the 95th Congress.

Hoping to prevent further oil spill accidents after the huge spills caused by the wrecks of the *Argo Merchant* and the *Amoco Cadiz*, Senators Muskie, Stafford and Chafee introduced S. 2900 in the spring of 1978 to establish a uniform regime for oil pollution liability and compensation. S. 2900 was an expansion of section 311 of the Clean Water Act, which since 1972 had covered hazardous substances as well as oil. The effects of incidents involving the release of hazardous substances convinced the Committee at that time that hazardous substances should continue to be included within the framework of cleanup, damages and liability.

Three of these incidents were the kepone contamination of the James River, the release of polychlorinated biphenyls (PCB's) into the Hudson River, and the contamination of Michigan livestock by the ingestion of polybrominated biphenyls (PBB's).

Kepone was discharged into the environment around Hopewell, Virginia, from 1966 to 1975 from two manufacturing operations. The Allied Chemical Company produced kepone, which was used primarily against potato beetles in Europe, for eight years through 1974. By the summer of 1975 several employees were stricken with several of the following symptoms: slurred speech, nervousness, tumors, liver damage, loss of memory and sterility. Although no one is known to have died from the contamination, scientists still do not know the extent of damage. Extensive medical bills have resulted from the contact with kepone.

The careless manufacturing and disposal practices also resulted in atmospheric emissions which settled on surface soils. Wastewater discharges passed through a sewage treatment plant, and contaminated the James River, which the Environmental Protection Agency says will take an amount of time from 50 years to "centuries" to clean itself. The pollution has idled a major fishing industry in Virginia because of fish contamination. Douglas Costle, the Administrator of the Environmental Protection Agency, said:

> It's estimated that the kepone discharges could have been properly controlled at a cost of $200,000. But they were not controlled. As a result, known claims against the company total more than $20 million. And the cost of cleaning up the James River has been put at roughly $8 billion—which means, as a practical matter, that it will probably never be done. Figures like these suggest that much federal regulation does pay its own way—even allowing for the uncertainties of benefit calculations.

The episode involving the contamination of the Hudson River also demonstrates the harms and costs that contamination of the environment by toxic chemicals can cause.

The General Electric Company discharged PCB's, an electric insulating fluid, into the Hudson for many years. As a result, commercial fishing, which was making a comeback as a result of other pollution controls, was largely stopped. The New York State Office of Environmental Conservation has estimated that to clean up the river will cost more than $30 million. This amount, however, does not include compensation for losses, such as to the fishermen who lost their livelihood, or for the lost revenues in recreational use.

The 1973 incident in Michigan involved the contamination of cattle feed by PBB's, a fire retardant. Livestock had to be destroyed and dairy products were contaminated. It is estimated that direct losses of $100 million have resulted. But this does not include costs of health effects on the population of Michigan. Some scientists estimate that 90 percent of the residents of the State may have ingested PBB's through dairy products.

As the threat of the release of hazardous substances began to be documented, the committee in considering the oil spill liability legislation in 1978 agreed that hazardous substances should be included in any legislation dealing with oil spills. Thus, S. 2900 included hazardous substance spills within the framework of cleanup and damages liability. Uncompensated claims were to be compensated from a fund established through a fee paid by the oil industry, until a separate fund for hazardous substances was established.

The oil and hazardous substance spill liability legislation passed the Senate in September, 1978. Final resolution of differences between the House and Senate did not occur by the end of the 95th Congress.

By the end of 1978, however, the incident at Love Canal more clearly demonstrated the national problem of hazardous chemicals. A solution of broader dimensions was needed to deal with the litany of contamination incidents that was being uncovered.

LOVE CANAL

The Love Canal tragedy, the most familiar example of the dangers of hazardous substances in our society, also paints the clearest picture of just how serious the problems involving toxic chemicals can be.

In January of 1979, Michael H. Brown, a reporter for the *Niagara Gazette*, who wrote over 100 stories on Love Canal, contributed a piece on the contaminated neighborhood to the New York Times Magazine.

The following excerpt from that article, entitled "Love Canal, USA", summarizes the Love Canal chain of events:

> Sometime in the 1940's—no one knows or wants to remember just when—the Hooker Chemical Company, which is now a subsidiary of Occidental Petroleum, found an abandoned canal near Niagara Falls, and began dumping countless hundreds of 55-gallon drums there. In 1953, the canal was filled in and sold to the city for an elementary school and playground (the purchase price was a token $1), and modest single-family dwellings were built nearby. There were signs of trouble now and then—occasional collapses of earth where drums had rotted through, and skin rashes in children or dogs that romped on the field—but they were given little thought until the spring of 1978. By then, many of the homes were deteriorating rapidly and were found to be infiltrated

by highly toxic chemicals that had percolated into the basements. The New York State Health Department investigated and discovered startling health problems: birth defects, miscarriages, epilepsy, liver abnormalities, sores, rectal bleeding, headaches—not to mention undiscovered but possibly latent illnesses. In August, President Carter declared a Federal emergency. With that, the state began evacuating residents from the neighborhood along the Love Canal, as it is named after the unsuccessful entrepreneur, William Love, who built it in 1894. Two hundred homes were boarded up, the school closed and the nation got a glimpse of what Senator Daniel Patrick Moynihan called "a peculiarly primitive poisoning of the atmosphere by a firm."

But it was clearly not so peculiar. Since then, new dumping grounds have been reported in several precarious places. Under a ball field near another elementary school in Niagara Falls health officials have found a landfill containing many of the same compounds; it was discovered because the ball field swelled and contracted like a bowl of gelatin when heavy equipment moved across it. Officials have discovered, too, that Hooker disposed of nearly four times the amount of chemicals present in the Love Canal several hundred feet west of the city's municipal water-treatment facility, and residues have been tracked inside water-intake pipelines. Across town, near Niagara University, a 16-acre Hooker landfill containing such killers as Mirex, C–56 and lindane—essentially chemicals that were used in the manufacture of pest killers and plastics—has been found to be fouling a neighborhood stream, Bloody Run Creek, which flows past drinking-water wells. About 80,000 tons of toxic waste are said to have been dumped there over the years.

Still worse, as the company recently acknowledged, Hooker buried up to 3,700 tons of trichlorophenol waste, which contains one of the world's most deadly chemicals, dioxin, at various sites in Niagara County between 1947 and 1972. Investigators immediately sought to determine whether dioxin had seeped out and, indeed, the substance was identified in small quantities within leachate taken from the periphery of the Love Canal, an indication that it may have begun to migrate. There are now believed to be an estimated 141 pounds of dioxin in the canal site—and as much as 2,000 pounds buried elsewhere in the county. The Love Canal is above the city's public water-supply intake on the Niagara River but a quarter of a mile away; the other sites are closer—in one case within 300 feet—but downstream of the intake. However, the Niagara flows into Lake Ontario, which Syracuse, Rochester, Toronto and several other communities make use of for water supply. Although health officials regard the dioxin discovery as alarming, they do not yet consider it a direct health threat because it is not known to have come into contact with humans or to have leached into water supplies. Academic chemists point out, however,

> that as little as three ounces of dioxin are enough to kill more than a million people. It was dioxin, 2 to 11 pounds of it, which was dispersed in Seveso, Italy, after an explosion of a trichlorophenol plant: Dead animals littered the streets, hundreds of people were treated for severe skin lesions and 1,000 acres had to be evacuated . . .

Since the publication of this article, new events at Love Canal have raised serious concerns over the residents' health. President Carter recently authorized the temporary relocation of 800 additional families from the polluted area.

Problems like Love Canal pose a series of problem questions:

—How should the government respond?
—Who should pay for response and damages?
—Is there adequate information to determine health risks?
—Can the causes of illnesses and injuries be specifically identified?
—How broad should compensation provisions of a Federal program be?
—Who will pay for health tests, relocation costs, medical compensation and other third party damages that might arise?
—What should the statute of limitations be with respect to discovered illnesses?
—What is the best technical manner to respond to leaching chemicals and other releases?

The range of problems explored by the Committee went beyond waste disposal sites. Senator Stafford addressed these in his opening remarks at the first hearing on March 18, 1979.

> Mr. Chairman, it is important to emphasize, I think, at the outset that these hearings deal with more than just the problem of abandoned hazardous waste sites. The orphaned site problem is important, and it is justly receiving a great deal of attention. Not only are water supplies being contaminated, but untold number of innocent persons are exposed to extremely toxic and hazardous chemicals. Some places, such as Love Canal, have become environmental ghettos. But these hearings are to inquire into the universal problems caused by the release of toxics into the environment.
>
> If these hearings were to deal only with the Love Canal or Toone, Tenn., we would be neglecting the radium sites in Denver. And if we were to deal with the Denver sites as well, we would still be neglecting PCB's in the Hudson River and PBB's in Michigan. If we restrict ourselves just to the waste, we will leave a large gap because in the chemical business one man's meat is literally another man's poison. Waste from one company is feedstock to another. What we must explore is the entirety of how and why toxics are entering the environment, whether they are injuring people, and if so, how. Then we must decide whether there should be a scheme to compensate victims, and if so, for what injuries.

INADEQUATE LEGAL AUTHORITY

There is limited authority to solve these problems. Regulations promulgated in May under subtitle C of the Solid Waste Disposal

Act, which impose tough new standards for operating toxic waste disposal facilities, are expected to greatly upgrade the Nation's active toxic waste disposal sites. But the regulations do not address those situations where an owner is unknown or is unable to pay the cleanup costs, nor do they address the clean up of spills, illegal dumping, or releases generally.

In cases like Love Canal, where the disposer is known and able to pay, and where there is significant danger, the Federal Government, under the Solid Waste Disposal Act, does have authority to sue the disposer or owner of the disposal site to seek clean up. But the uncharted legal pathway will be lengthy and uncertain.

In addition to the Solid Waste Disposal Act, there is a patchwork of other existing Federal statutes which ostensibly deal with hazardous substance problems.

Section 311 of the Clean Water Act imposes liability for cleanup and mitigation of spills of oil and approximately 300 designated hazardous substances. A $35 million appropriated revolving fund is available for immediate cleanup activities and any money recovered from the spiller is returned to the fund. As of May, 1980, the fund was virtually depleted. Section 311 is triggered only by spills into navigable waters and does not cover most groundwater incidents or other releases.

Section 504 of the Clean Water Act provides authority for the cleanup and mitigation of environmental emergencies which present an imminent and substantial threat to health or welfare. A $10 million appropriated revolving fund is authorized for such actions, but no appropriations have ever been made available for this fund.

The Safe Drinking Water Act has two provisions which seek to address contamination incidents. Section 1431 provides basic emergency authority when a contaminated public water supply system presents an imminent and substantial threat to the health of citizens. Section 1442 authorizes the Environmental Protection Agency to make grants to assist States and cities in responding to emergency situations when a public water supply is threatened.

These statutes provide a legal basis for emergency response to clean up and mitigate a limited number of environmental emergencies. But in most cases, funding is inadequate or has not been made available. And more importantly there is no general Federal law establishing liability in the case of accidents or other incidents involving hazardous substances. So, even when a responsible company has been identified, recovering cleanup costs and damages can be extremely difficult or impossible. Often, whether the government is suing for cleanup costs or individuals are suing for property or personal damage, cases must be brought in State courts under laws which vary from State to State.

There is no available source of funds for the expensive remedies needed to help solve hazardous chemical contamination problems. Millions of dollars will be needed in some cases just to contain releases. For example, the State of New York and the Environmental Protection Agency have already spent over $30 million at Love Canal, largely on emergency and short-term response. The total remedial costs of Love Canal alone are expected to reach $125 milllion.

These legal gaps in responding to such incidents prompted the Committee to include three major concerns in its reported legislation:

First, provide incentive for maximum care in handling hazardous substances and for minimizing the effects of any releases by establishing strict liability for responsible parties for cleanup costs, mitigation, and third-party damages.

Second, provide a mechanism for rapid response, including an immediately available source of funding for cleanup and mitigation, when hazardous substances are released into the environment; and

Third, provide prompt and adequate compensation for injured parties.

II. Goals and Elements of New Legislation

The Environmental Emergency Response Act, S. 1480, is designed to help address many of the problems faced by society as a result of chemical contamination.

The bill is not intended to replace other laws which aim to correct a variety of toxic chemical concerns. The Clean Air Act, the Clean Water Act, the Toxic Substances Control Act, the Solid Waste Disposal Act, and other statutes are only beginning to build regulatory foundations to address the wide range of toxic contamination incidents. The reported bill, S. 1480, is structured to complement these laws.

Environmental Protection Agency Administrator Douglas Costle spoke in May, 1980, about the need for new legislation:

> * * * the framework for a national program to control the wastes now being generated is rapidly falling in place * * *.
>
> * * * there is as yet one important element missing from the regulatory framework. Our current laws give us the authority needed to control the wastes now being generated, and to begin to regulate disposal sites now in use. But they do not give us the resources we need to clan up the dumpsites left by the companies that have gone out of business, or those created by outlaw dumpers. We have been forced to rely on a patchwork of authorities, which provide at best limited funds—and, in those cases where we can identify a responsible party, on the lawsuit.
>
> We have not hesitated to use these tools. We have already filed 19 lawsuits, for example, including a series of actions against Hooker Chemical. But what we need, at this point, is * * * a revolving fund that would allow us to go in and clean up hazardous waste sites first, then try to recover the costs of cleanup later.
>
> If we had a superfund a few months ago, we could have cleaned up the site in Elizabeth, N.J. * * * and each day that passes without it raises the odds that yet another dumpsite will become a source of imminent danger to public health.

Because the problem of hazardous substances in the environment is complex, the legislation seeking to rectify those problems must contain several essential elements if it is to be effective.

To achieve these goals five basic elements are included in legislation to broadly address the problems. These are:

First, assuring that those responsible for any damage, environmental harm, or injury from chemical poisons bear the costs of their actions;

Second, providing a fund to finance response action where a liable party does not clean up, cannot be found, or cannot pay the costs of cleanup and compensation;

Third, basing the fund primarily on contributions from those who have been generically associated with such problems in the past and who today profit from products and services associated with such substances;

Fourth, providing ample Federal response authority to help clean up hazardous chemical disasters; and

Fifth, providing adequate compensation to those who have suffered economic, health, or other damages.

LIABILITY

The goal of assuring that those who caused chemical harm bear the costs of that harm is addressed in the reported legislation by the imposition of liability. Strict liability, the foundation of S. 1480, assures that those who benefit financially from a commercial activity internalize the health and environmental costs of that activity into the costs of doing business. Strict liability is an important instrument in allocating the risks imposed upon society by the manufacture, transport, use, and disposal of inherently hazardous substances.

To establish provisions of liability any less than strict, joint, and several liability would be to condone a system in which innocent victims bear the actual burden of releases, while those who conduct commerce in hazardous substances which cause such damage benefit with relative impunity.

Without the bill's liability provisions, victims of a hazardous chemical incident face a difficult burden in seeking redress through the courts.

In testimony during hearings on S. 1480, several witnesses testified that victims who were poisoned by toxic chemicals faced barriers in the legal system to presenting their cases.

One example was that of Mr. Frank Kaler of Jamesburg, New Jersey, whose well was contaminated by synthetic chemicals. Mr. Kaler testified that he was "economically bludgeoned out of the courtroom" when his counsel presented the grim economic facts of appealing his unexpected low first award.

A 500-page Library of Congress Study[4], requested by Senators Stafford and Culver, and released on June 17, 1980, came to three basic conclusions on victim compensation with respect to releases of hazardous substances:

First, the legal mechanisms in the States studied are generally inadequate for redressing toxic substances-related harms, and traditional tort law presents substantial barriers to recovery.

[4] "Six Case Studies of Compostion for Toxic Substances Pollution: Alabama, California, Michigan, Missouri, New Jersey and Texas," Congressional Research Service, Library of Congress Serial No. 93–18, June, 1980.

Second, seeking compensation for pollution-related injuries is usually cumbersome, time-consuming and expensive. In the releases studied (some involving many exposures), few cases were filed and final judgments were rarely obtained.

Third, as a consequence of these difficulties, the compensation ultimately provided to injured parties is generally inadequate.

While sustaining such actions through complete litigation is difficult, the current case law is generally supportive of the imposition of strict, joint and several liability with respect to hazardous substances.

Even though relatively few of the toxic tort problems addressed in the bill have been brought into court and adjudicated until recently, the U.S. Justice Department and independent legal authorities have stated that the basis for imposing such liability currently exists.

The most analogous areas of the law are product liability and liability for abnormally dangerous activities. For example, the law of product liability imposes strict, joint and several liability on manufacturers of unavoidably dangerous products.

James W. Moorman, the Assistant U.S. Attorney General for Land and Natural Resources, said before the joint subcommittees:

> The evidence compiled through Congressional hearings on the subject of hazardous waste overwhelmingly supports the conclusion that the generation of hazardous wastes is what the law would consider to be an ultrahazardous activity. By their very nature, hazardous wastes create a high degree of risk that their release will cause substantial harm.

Another source of legal precedent for strict liability for hazardous substance disposal sites or contaminated areas is nuisance theory. Damage actions involving the maintenance of a public or private nuisance often involve a kind of strict liability standard.

An important aspect of strict liability is that it would create a compelling incentive for those in control of hazardous substances to prevent releases and thus protect the public from harm.

In April 1978, in his opening statement on hearings to establish comprehensive pollution liability and compensation legislation, Senator Edmund Muskie, then Chairman of the Subcommittee on Environmental Pollution, said that a major question was what kinds of incentives would be included for transporters and facility operators to adopt strict measures to guard against spills.

Again, on June 20, 1979, in joint subcommittee hearings to discuss the Administration's superfund proposal, Senator Muskie said to Thomas Jorling, Assistant Administrator for Water and Waste Management of the Environmental Protection Agency:

> I am not sure this legislation * * * would provide the added deterrent law to effectively discourage not only spills, but the deposit of hazardous materials in sites which are environmentally dangerous. * * * What type of deterrent is there in this fee approach?

Mr. Jorling responded:

> The basic point is this fee is not designed to be a deterrent. This fee is designed to generate revenues for the Government to respond.

> The deterrent aspect comes from the fact that if Government spends money out of that fund, there is recovery back against those who discharge, plus penalties * * *.
>
> This fee system is not designed to be a deterrent, nor is it designed to be a fee that can be construed as a right to pollute. It is liability provisions that are the deterrent.

In correcting the historic neglect of hazardous substances disposal, it is essential that this incentive for greater care focus on the initial generators of hazardous wastes since they are in the best position to control the risks. Generators create the hazardous wastes, they have more knowledge about the risks inherent in their wastes and how to avoid them, and they determine whether and how to dispose of these wastes—on their own sites or at locations controlled by others. Without a strict liability standard for generation of hazardous wastes, generators will have a strong incentive to transfer control of their wastes to others as quickly as possible—a practice whose social and environmental consequences are documented almost daily in news reports.

As Mr. Moorman testified further before the joint subcommittees:

> Society needs to insure, to the greatest degree possible, that those who control hazardous wastes throughout the whole process of disposal have the expertise and resources to handle those wastes properly. The only way society can insure this is to place on the generator of the waste the highest possible incentive to make sure that the waste is passed on to those that can fulfill these requirements. The best incentive is strict, joint and several liability * * * I should also note, that a joint and several and strict liability standard will encourage generators to remedy hazards created in the past as well as to discourage them from creating new hazards.

Several precedents exist for federally-imposed liability regimes. One Federal regulatory program with a direct and significant effect on State liability laws was the Federal Safety Appliance Act. Another program, directly overlaying State regimes with new and different Federal liability standards and remedies, is section 10(b) of the Securities Act, which creates a federally enforceable remedy for securities fraud. And finally, strict liability has already been established for cleanup costs and natural resource damages due to oil and hazardous substances spills in navigable waters under section 311 of the Clean Water Act, as well as general strict liability schemes for damages and cleanup costs for oil spills under the Deep Water Port Act and title III of the Outer Continental Shelf Lands Act Amendments of 1978.

For releases authorized under Federal permit programs, the bill would allow the use of the Funds to respond to harm or to a threat of harm. In the case of a permitted release, however, the Fund, and injured third parties as well, would not seek recovery under the liability provision of S. 1480. The Fund and injured parties would seek recovery under other State or Federal statutes or under common law.

ESTABLISHMENT OF A FUND

Present statutes do not provide adequate compensation for those affected by chemical contamination, and are inadequate to respond to

releases of hazardous substances. To meet these needs, the bill creates a special fund.

Three sections of the Clean Water Act authorize funds for cleanup of chemicals released into navigable waters and mitigation of damages. These are:

—Section 115, authorizing $15 million for removal and disposal of hazardous materials from navigable waterways and critical port and harbor areas;

—Section 311, authorizing a $35 million fund (replenishable by appropriation and recovery) to clean up and mitigate spills affecting navigable waters or natural resources; and

—Section 504, authorizing a $10 million replenishable fund to clean up pollution creating an "imminent and substantial endangerment to the public health or welfare."

Aside from the inherently limited response authority in each of these sections, each also is hampered by limits of appropriations.

Sections 115 and 504 have never been funded. Section 311 received additional funding of $13 million in 1979, but due to the number of spills and slow recovery rate in court, that fund is currently depleted.

Also, these sections of the law are not well constructed to deal with abandoned and inactive sites or with new cases of "midnight dumping" onto the ground, or with general releases into the environment.

The Solid Waste Disposal Act mandates safe disposal of hazardous wastes in the future, and creates a regulatory structure intended to track all hazardous waste streams. But it does not provide funds to clean up improper dumping, and its authority is limited to hazardous substances which are wastes.

This situation causes an array of problems. In the absence of a fund, a financially solvent perpetrator must be found, sued, and collected from before any money is available for any purpose. This obstacle is compounded by the high cost of identifying chemicals in the environment and tracing them to their source, by a lack of records for old dumpsites and other releases, the difficulty in determining the assets of responsible parties, by the inability of small firms to pay, and by the likelihood that out-of-court settlements will often be smaller than damages if the perpetrator can wait out the government and victims.

In addition, none of the existing authorities compensates victims. Nor often do third parties have access to the Federal courts, leaving a victim to seek compensation under State tort laws often applying negligence or nuisance theories. The victim must bear the cost and burden of proving technically complex causes and effects.

Actions by State agencies are sometimes haphazard and are hampered by a lack of funds. In many cases, States have shown unwillingness to assume the expense of cleanup without a matching Federal commitment; in others, States have been unwilling to hold responsible major industries which are economically significant. In addition, chemical pollution lawsuits require technical expertise and commitments of time that few States have shown willingness to finance.

Thus, existing systems of response and compensation are not adequate.

The argument in favor of creating a fund was well stated by the Interagency Task Force on Compensation and Liability, composed of representatives of various Federal agencies convened to study this problem. It reported as follows:

> The principal difficulty with existing federal programs is that, even when taken together, they fall far short of a comprehensive sttrategy for dealing with the damages caused by hazardous materials. Even the most ambitious programs (such as Price-Anderson and Section 311) are constrained in some way. Victims of hazardous materials releases face a denial of compensation under federal statutory schemes due to the various funds' limits on the hazardous substances covered, the environmental pathway (water, air or land) for damage, the type of incident or the type of damage.
>
> The present system's array of narrowly defined programs may create administrative problems as well. Typically the funds that exist are adjuncts to other regulatory prrograms and are limited by the scope of specific licensing activities. As a result the goal of compensating the injured may be complicated by questions of the regulatory jurisdiction of the various federal agencies. For example, when an oil spill occurs it would be necessary to track down the source of the spill before either the Deepwater Port Liability Fund, the Trans-Alaska Pipeline Liability Fund or the Offshore Oil Spill Pollution Fund would be liable. Such excursions into causation prior to compensation undermines one of the purposes behind a strict liability fund system.

Aside from those sections of the Clean Water Act, there are several precedents for the establishment of a fund. These include the Offshore Oil Spill Pollution Fund, the Fisherman's Contingency Fund, the Trans-Alaska Pipeline Authorization Act, the Deepwater Ports Act, the Surface Mining Control and Reclamation Act, the Black Lung Benefits Reform Act, the Jones Act's provision for merchant seamen, and the Federal Employee's Compensation Act for railroad workers.

The bill authorizes a 6-year fund. Over that period, a total of $4.085 billion would be derived from fees and appropriations. In the first year, fees and appropriations would be $285 million; in the second year, $600 million; and in each of the third through sixth years, $800 million. Two-thirds of the annual revenues would be reserved for government response, including removal and remedy actions, restoration of natural resources, epidemiological studies, victim registries, and other health effects surveys. One-third of annual revenues would be available to compensate third-party damages.

In the third through sixth year, $534 million will be available annually for government response. A fund providing $534 million annually will permit government response only to the most significant releases. At this level of funding, response will not be possible at a large number of releases posing imminent or substantial threats to public health or the environment. The Environmental Protection

Agency estimates that in the first 4 years, S. 1480 will finance removal (emergency assistance only) at 600 hazardous waste disposal sites, remedy of the problems at only 235 of these sites, and response to approximately 2,800 spills or other releases. At some 360 sites, the need for remedy will be ascertained, but will have to be deferred for lack of funds.

Even these projections substantially overstate the level of government response the Fund can actually afford. The Agency's estimates do not include permanent relocation, epidemiological studies, victim registries, other health studies, or the costs of operating and maintaining long-term remedial measures. Estimates indicate these omitted items may require annual Fund expenditures ranging from $100 million to $345 million by the sixth year, reducing even further the number of cases to which the fund will be able to respond. In addition, the estimates may overstate the level of government response because the costs of remedy are assumed to actually decline over the four years from $3 million to $2.2 million per site, and the impact of inflation is ignored.

The Fund created by S. 1480 may not be adequate to remedy sites which are already known and which the Agency has at least tentatively concluded need remedial action. The Agency is investigating some 5,790 sites identified in the past year. To date, it has determined that State or Federal response actions are required at 111 sites and tentatively concluded that such actions are needed at an additional 231 sites. These determinations are based on inspections of fewer than one-fifth of the 5,790 known sites. The number of sites which contain hazardous wastes is estimated to total at least 50,000.

Estimates based upon available information indicate that third-party damages could require between $150 million and $300 million annually, depending on the incidence of damages, the number of claims honored by liable parties, the number and size of catastrophic releases, and the costs of claims adjudication. Obviously such estimates at this time could be subject to error.

The use of the Fund for third-party damages was limited to actual medical expenses paid within six years of the date of discovery of the injury, and two years' lost wages or salary from the date the loss began. In addition, separate provision was made for agricultural and fishery losses.

If the amount set aside in the bill for third-party damages is too large, the Fund administrator has authority to reduce fees and appropriations in the next year. If the amount is too small, monies may be borrowed from the Treasury, but since they must be paid back from future revenues, the Fund administrator will be forced to ration claim payments in later years, based on hardship to the claimant and other criteria.

The legislation would also establish a second Federal fund which would assume the liability from owners and operators of hazardous waste disposal facilities which were permitted under Subtitle C of the Solid Waste Disposal Act and closed in accordance with the regulations under that Act.

That Act requires that site owners prove their financial capability to pay for the repair of those facilities which release a hazardous sub-

stance after closure. The Agency has deferred the implementation of this provision because site owners have been unable to secure private insurance establishing such financial responsibility. This has proved to be a serious stumbling block to the establishment of the desperately needed new capacity to dispose of hazardous substances.

This legislation would transfer such liability only if the permitting authority certifies that a facility closure was in compliance with the Solid Waste Disposal Act permit and regulations and that hazardous substances were not likely to migrate off-site.

This revolving post-closure liability fund of $200 million would be financed by a fee imposed on hazardous wastes.

SOURCES OF REVENUES FOR THE FUND

The Committee concluded that the Fund should be supported by a combination of fees on industry and appropriations. Fees provide most of the Fund's revenue. This decision raised two additional issues:

On what portions of industry should a fee system be centered? and,

How much should the assessment on industry be?

A fund based only on appropriations would not be in the public interest. Taxpayers too often are asked to remedy problems they do not help create. Relying on general revenues to clean up past industrial mistakes could be interpreted by some as a public policy precedent, implying that the longer it takes for problems to appear, the less responsible those who cause the problem are for the solution.

Further, a Fund derived exclusively from appropriations would subsidize those generators and users of hazardous substances who, while benefiting economically, have exposed society to the risks of commerce in hazardous substances.

Also, to assure the billions of dollars needed to deal with hazardous chemical problems are available, while meeting the equally desired goals of restrained Federal spending, a fee on those who benefit from the commercial and industrial practices which expose society to hazardous substances is especially appropriate to these related national concerns.

The economic impact of an industrial fee system will not be disruptive.

In a September 25, 1979, letter to the Environment and Public Works Committee Chairman, Jennings Randolph, Environmental Protection Agency Administrator Douglas Costle said that virtually all of the costs of the fee system would be passed on to consumers of products made from the chemicals subject to the fee.

"In an industry with a historic annual average of six to eight percent profits and equally high rates of growth," Mr. Costle wrote, "fees of less than two percent will, at most, produce a slight reduction in the rate of growth."

In determining how industrial fees should be levied, the Committee, in the two years of deliberation on the bill and its predecessor, moved away from imposing fees on wastes and hazardous end-products, and instead approved a system which imposes fees on the relatively few basic building blocks used to make all hazardous products and wastes. The initial fee proposal in S. 1480 as introduced would have involved

the collection of fees from at least 260,000 generators of hazardous substances, assuming fees would not be imposed on several hundred thousand very small firms. It was determined that such a system would have significantly increased government paperwork on industry, been difficult to defend in court, been impossible to administer, involved long delays before implementation, resulted in potential significant economic inequities, and induced industrial behavior contrary to the environmental purposes of the bill.

The imposition of a fee on the building blocks of all hazardous substances has several advantages. It raises more revenue without creating significant economic impact in the national economy than a fee on wastes and products because it spreads costs more broadly throughout the chain of commerce of hazardous products and wastes. Collection of such a fee also would be simple. It would be levied on fewer than 1,000 sources, instead of at least 260,000 and on just 46 basic building blocks (primary petrochemicals, inorganic raw materials and petroleum oil).

Also, because a fee on feedstocks can be passed on to customers, it does not single out the chemical industry's profits as its source of revenue. Virtually all hazardous wastes and substances are generated from these primary petrochemicals, inorganic raw materials or petroleum oil. The costs of a fee imposed at this early step in the industrial chain of production, distribution, consumption and disposal will be more evenly passed along to all industrial sectors which produce and consume hazardous substances and generate hazardous wastes. The fee system utilizes the efficiency of the marketplace to distribute the fees through the chain of commerce rather than relying upon a large Federal bureaucracy to select out who should be subject to what fee.

Seven-eights of the annual revenues of the Fund, exclusive of recoveries, is to come from fees, and one-eighth from appropriations. These appropriations were authorized for three reasons: (1) they will help assure startup of the program by allowing cleanup and third-party compensation to begin without the delays that could occur while procedural fee regulations are being promulgated and the fees collected; (2) the appropriations process will assure scrutiny of the use of the Fund by the Administration and the Congress; and (3) appropriations provide a safeguard against court tests which could halt the start of cleanup and compensation.

The initial allocation of fees between petrochemicals, inorganics, and oil approximately reflects the ratio of hazardous wastes generated from each. Wastes representing 92 percent of annual hazardous waste generation, after correction for weight bias, were found in surveys to be in a ratio of approximately three to one, organic (petrochemicals) to inorganic. In addition, fees would be collected from crude oil to reflect the high incidence of waste oils found in hazardous waste disposal sites. This results in the following allocation of fees (in 3 years, when the Fund is authorized at $800 million annually): Primary petrochemicals, 65 percent of the total fees, or $450 million; inorganic raw materials, 20 percent, or $150 million; and petroleum oil, 15 percent, or $100 million. These fees would be collected on imports and exports as well as domestic production. Federal appropriations would make up the additional $100 million.

The fees would be phased in over a 3-year period. After 3 years and biannually thereafter, both the categories paying the fee and the actual amount paid may be administratively adjusted to reflect the empirical degree of hazard based on the payout experience of the Fund. However, any such adjustment cannot exceed the statutory limits on fees which are designed to preclude significant economic impacts. After 4 years, a report will be made to the Congress to evaluate statutory changes that could better reflect who and how much should be paid into the Fund according to the pay out experience of the Fund.

To facilitate rapid implementation, the first year fees are specified for each substance in the reported legislation. The second and third year fees are included in this report. The specific fee rates are based on production volumes. After 3 years, any changes in the fees will be established by public rulemaking, thus allowing those affected industries to participate. A number of provisions are included in the fee system to assure an equitable fee which avoids unintended economic impacts, including: a provision which allows only one fee collection on any given quantity, statutory maximums which the fees cannot exceed, and exclusions from the fees for primary petrochemicals and inorganic raw materials which are used as a source of fuel, produced solely as a by-product of pollution control and used commercially, or derived from recycled material.

In testimony before the joint subcommittees, the Administration identified three criteria to apply in establishing a legislative fee system: "First was equity, a nexus to the problem. The second was administrative complexity in the collection system. Can you penetrate a very complicated commercial system and do it efficiently without creating the need for a huge bureaucracy to apply rule-making and guidance, and interpretations to collect the fee? The third feature was economic impact on the basic systems of production that exist in this country in oil and chemicals."

These three criteria were used to develop a fair fee system. In addition, the Committee considererd the speed with which fees could begin to be collected and the legal defensibility of any fee system. The economic impact, with the precautions included in the legislation, will be minimal. The annual fund is small compared to the Gross National Product, and since the fee is not indexed to inflation, the impact will lessen with time. The Congressional Budget Office, in reviewing the fee system embodied in S. 1480, agreed with the conclusion of the economic analyses carried out for the Committee by the Environmental Protection Agency: "The effect of the fees on prices and production volumes of final products is small," and, "the fees should have at most a very small effect on GNP, the price level, or unemployment."

The American chemical export business has done extremely well in recent years. Through the first half of 1979, exports were running at an annual rate of more than $16 billion, a 39 percent increase over the previous year's pace.

Concern was expressed by some industries about the possible effects of an industrial fee on the exports of American chemicals. The Congressional Budget Office has determined that the maximum possible decline in petrochemical profits, if U.S. companies found they could not pass on the fees from an $800 million annual fund to export consumers, would be $67.5 million from the multi-billion dollar industry. However, both the Congressional Budget Office and the Environmental Protection Agency analyses find that it is highly unlikely that the fees could not be passed on. The impact of fees appears miniscule compared to oil price changes and changes in the international exchange rates. In recently resisting European tariffs, the U.S. chemical industry has argued that some American competitive advantage will still exist after oil price decontrol due to the greater efficiencies in U.S. plants. The Committee has made adjustments in the fee system in two areas where analyses suggest economic impacts could have been troublesome, the copper and fertilizer industries.

GOVERNMENT RESPONSE MECHANISM

In a joint subcommittee field hearing in Niagara Falls, New York, Lois Gibbs, the president of the Love Canal Home Owners Association, testified:

> Neither the state nor the federal agencies who could help were responsible for the situation (Love Canal). And neither wanted to take financial responsibility for cleaning it up.

Because present law does not provide adequate authority for emergency actions involving hazardous chemicals a major goal of this legislation is to provide clear authority to act and an adequate response to emergencies caused by toxic and hazardous chemical emergencies.

The response mechanism in section 311 of the Clean Water Act, which established a hazardous substance spill control program, was a result of congressional concern that the public health and environment might not be protected from chemical spills. The Committee has learned, however, that a response to spills into or affecting navigable water is just not enough. With such narrow authority for response, the questions of what to do about abandoned waste sites, midnight dumping and other harmful releases would go unanswered. Major questions would also remain about just how much to do at hazardous waste sites. Is containment enough? How long is monitoring of a site necessary? Are both removal and remedy of abandoned sites possible within cost limitations?

The Chemical Transportation Emergency Center (Chemtrec) is a service provided by the Chemical Manufacturers Association to provide immediate advice for accidents involving the transportation of chemicals. A government emergency response system was needed not only for transportation spills, but for releases of all kinds. The thrust of the Environmental Emergency Response Act is to provide for immediate emergency response actions and application of the best engineering techniques for containment and remedy.

Therefore, the reported legislation would require that the appropriate agency be notified of any release of a hazardous substance into the environment by any person in charge of a vessel or facility from which a release occurs. Failure to report such releases could result in a fine or imprisonment.

In the event of a release of a hazardous substance, the legislation gives the President the authority to provide necessary remedial action, including any emergency action essential to protect the environment or human health or welfare. The President is directed to revise the National Contingency Plan, presently in existence pursuant to section 311 of the Clean Water Act, in order to create clear response procedures under the requirements of the reported legislation.

COMPENSATION

In determining ways to pay for the costs borne by the victims of chemical contamination, any decision must weigh the enormous scope of the problem and the potential immensity of these costs.

Several studies, discussed above, have shown that economic losses are substantial and that the rate of compensation for victims is extremely low. Sizeable losses due to out-of-pocket medical expenses, lost wages, lost recreational businesses revenues and contaminated agricultural and seafood products have occurred. A Library of Congress study has also concluded that, ". . . damage to natural resources in the United States by toxic chemicals is substantial and enduring."

The need for compensation must be balanced with the fiscal problems that would result if a fee-based fund were required to compensate for all damages due those who have been or might become victims of such losses.

With regard to the medical expenses of victims, the bill expresses the following priorities:

—That injured victims be assured they receive immediate medical attention;

—That when no liable source can be identified or the liable source is not financially viable, chronically injured victims not be denied treatment;

—That government-supplied diagnostic and treatment services be made available whenever possible.

As reported, S. 1480 covers certain losses, but it also places limitations on compensation. One requirement is that claims against the Fund for damages must be brought within three years of the discovery of the loss or of enactment of this Act, whichever is later. A second limitation is that, with the exception of food production losses (described elsewhere), the Fund will reimburse victims only for out-of-pocket medical expenses incurred within six years of discovery of the illness or injury and 100 percent of lost wages in the first year following the loss and 80 percent of lost wages in the second year.

Another limitation is that third-party damages resulting from exposure completed prior to January 1, 1977, would not be compensible from the Fund, nor subject to the liability provisions of this bill, if the injured party knew of his injury before that date. A person exposed to a hazardous substance before January 1, 1977, could seek compensation from the Fund for medical expenses and lost income within the limits of the bill, if the injury did not become apparent until after January 1, 1977, but any recovery from the liable party would have to be under common law.

The Fund also pays for expert witness fees, health studies, and diagnostic examinations.

DISCUSSION OF MAJOR PROVISIONS

Definition of Hazardous Substances

The provisions of the bill apply to discharges, releases, and disposal of hazardous substances. Thus, the characterization of a substance as hazardous under section 2(b)(13) is important for several reasons: first, in most cases that is the key to government response and the use of the Fund; secondly, release of designated hazardous substances invokes the requirement for notice to the government under section 3(a)(3) and (4); and thirdly, discharge, release or disposal of designated hazardous substances applies the liability under section 4 of the bill for removal, remedial action, and damage costs.

There are two basic mechanisms for substances to be designated as hazardous for purposes of the bill. The first under section 2(b)(13)(A) through (E) is through the operation of the statute itself. By the terms of those provisions those substances listed as hazardous or toxic under certain other Federal laws are incorporated by reference and upon the date of enactment of this bill such substances become statutorily defined as hazardous substances for purposes of this bill. And the release of any of them or any constituent of them invokes the notice requirements and response provisions and any costs of removal or remedial action or any damages are subject to the liability provisions of the bill.

Section 2(b)(13) of S. 1480 defines as a hazardous substance all those substances which are listed under sections 311 and 307 of the Clean Water Act; section 112 of the Clean Air Act; subtitle C of the Solid Waste Disposal Act; and section 7 of the Toxic Substances Control Act. As substances are added to these lists they would be automatically designated as hazardous substances for purposes of S. 1480.

Following are lists of substances which will be hazardous substances under S. 1480 upon enactment.

At the present time 297 substances have been listed as hazardous substances under section 311 of the Clean Water Act, as follows:

Acetaldehyde
Acetic acid
Acetic anhydride
Acetone cyanohydrin
Acetyl bromide
Acetyl chloride
Acrolein
Acrylonitrile
Adipic acid
Aldrin
Allyl alcohol
Allyl chloride
Aluminum sulfate
Ammonia
Ammonium acetate
Ammonium benzoate
Ammonium bicarbonate
Ammonium bichromate
Ammonium bifluoride
Ammonium bisulfite
Ammonium carbamate
Ammonium chloride
Ammonium chromate
Ammonium citrate
Ammonium fluoborate
Ammonium fluoride
Ammonium hydroxide
Ammonium oxalate
Ammonium silicofluoride
Ammonium sulfamate
Ammonium sulfide
Ammonium sulfite
Ammonium tartrate
Ammonium thiocyanate
Ammonium thiosulfate
Amyl acetate

Aniline
Antimony pentachloride
Antimony tribromide
Antimony trichloride
Antimony trifluoride
Antimony trioxide
Arsenic disulfide
Arsenic pentoxide
Arsenic trichloride
Arsenic trioxide
Arsenic trisulfide
Barium cyanide
Benzene
Benzoic acid
Benzonitrile
Benzoyl chloride
Benzyl chloride
Beryllium chloride
Beryllium fluoride
Beryllium nitrate
Butyl acetate
n-Butyl phthalate
Butylamine
Butyric acid
Cadmium acetate
Cadmium bromide
Cadmium chloride
Calcium arsenate
Calcium arsenite
Calcium carbide
Calcium chromate
Calcium cyanide
Calcium dodecylbenzenesulfonate
Calcium hypochlorite
Captan
Carbanyl
Carbofuran
Carbon disulfide
Carbon tetrachloride
Chlordane
Chlorine
Chlorobenzene
Chloroform
Chlopyrifos
Chlorosulfonic acid
Chromic acetate
Chromic acid
Chromic sulfate
Chromous chloride
Cobaltous bromide
Cobaltous formate
Cobaltous sulfamate
Coumaphos
Cresol
Crotonal dehyde
Cupric acetate
Cupric acetoarsenite
Cupic chloride
Cupric nitrate
Cupric oxalate
Cupric sulfate
Cupric sulfate ammoniated
Cupric tartrate
Cyanogen chloride
Cyclohexane
24-D Acid
24-D Esters
DDT
Diazinon
Dicamba
Dichlobenil
Dichlone
Dichlorobenzene
Dichloropropane
Dichloropropene
Dichloropropene-Dichloropropane Mixture
2,2-Dichloropropionic acid
Dichlorvos
Dielarin
Diethylamine
Dimethylamine
Dinitrobenzene
Dinitrophenol
Dinitrotoluene
Diquat
Disulfoton
Diuron
Dodecylbenzenesulfonic acid
Endosulfan
Endrin
Epichlorohydrin
Ethion
Ethylbenzene
Ethylenediamine
Ethylene dibromide
Ethylene dichloride
EDTA
Ferric ammonium citrate
Ferric ammonium oxalate
Ferric chloride
Ferric fluoride
Ferric nitrate
Ferric sulfate
Ferrous ammonium sulfate
Ferrous chloride
Ferrous sulfate
Formaldehyde
Formic acid
Fumaric acid
Furfural
Guthion
Heptachlor
Hexachlorocyclopentadiene
Hydrochloric acid
Hydrofluoric acid
Hydrogen cyanide
Hydrogen sulfide
Isoprene
Isopropanolamine dodecylbenzenesulfonate
Kelthane
Kepone
Lead acetate
Lead arsenate
Lead Chloride
Lead fluoborate
Lead fluoride
Lead iodide
Lead nitrate
Lead stearate
Lead sulfate

Lead sulfide
Lead triocyanate
Lindane
Lithium chromate
Malathion
Maleic acid
Maleic anhydride
Mercapatodimethur
Mercuric cyanide
Mercuric nitrate
Mercuric sulfate
Mercuric thiocyanate
Mercurous nitrate
Methoxychlor
Methyl mercaptan
Methyl methacrylate
Methyl parathion
Mevinphos
Mexacarbate
Monoethylamine
Monomethylamine
Naled
Naphthalene
Naphthenic acid
Nickel ammonium sulfate
Nickel chloride
Nickel hydroxide
Nickel nitrate
Nickel sulfate
Nitric acid
Nitrobenzene
Nitrogen dioxide
Nitrophenol
Nitrotoluene
Paraformaldehyde
Parathion
Pentachlorophenol
Phenol
Phospene
Phosphoric acid
Phosphorus
Phosphorus oxychloride
Phosphorus pentasulfide
Phosphorus trichloride
Polychlorinated biphenyls
Potassium arsenate
Potassium arsenite
Potassium bichromate
Potassium chromate
Potassium cyanide
Potassium hydroxide
Potassium permanganate
Propargite
Propionic acid
Propionic anhydride
Propylene oxide
Pyrethrins
Quinoline
Resorcinal
Selenium oxide
Silver nitrate
Sodium
Sodium arsenate
Sodium arsenite
Sodium bichromate
Sodium bifluoride
Sodium bisulfite
Sodium chromate
Sodium cyanide
Sodium dodecylbenzenesulfonate
Sodium fluoride
Sodium hydrosulfide
Sodium hydroxide
Sodium hypochlorite
Sodium methylate
Sodium nitrite
Sodium phosphate, dibasic
Sodium phosphate, tribasic
Sodium selenite
Strontium chromate
Strychnine
Styrene
Sulfuric acid
Sulfur monochloride
2,4,5-T acid
2,4,5-T amines
2,4,5-T esters
2,4,5-T salts
2,4,5-TP acid
2,4,5-TP acid esters
TDE
Tetraethyl lead
Tetraethyl pyrophosphate
Thallium sulfate
Toluene
Toxaphene
Trichorfon
Trichloroethylene
Trichlorophenol
Triethanolamine dodecylbenzenesulfonate
Triethylamine
Trimethylamine
Uranyl acetate
Uranyl nitrate
Vanadium pentoxide
Vanadyl sulfate
Vinyl acetate
Vinylidene chloride
Xylene
Xylenol
Zinc acetate
Zinc ammonium chloride
Zinc borate
Zinc bromide
Zinc carbonate
Zinc chloride
Zinc cyanide
Zinc fluoride
Zinc formate
Zinc hydrosulfite
Zinc nitrate
Zinc phenolsulfonate
Zinc phosphide
Zinc silicofluoride
Zinc sulfate
Zirconium nitrate
Zirconium potassium fluoride
Zirconium sulfate
Zirconium tetrachloride

At the present time 67 categories of chemicals have been designated as toxic pollutants under section 307 of the Clean Water Act, as follows:

Acenaphthene
Acrolein
Acrylonitrile
Aldrin/Dieldrin
Antimony and compounds*
Arsenic and compounds
Asbestos
Benzene
Benzidine
Beryllium and compounds
Cadmium and compounds
Carbon tetrachloride
Chlordane (technical mixture and metabolates)
Chlorinated benzenes (other than dichlorobenzenes)
Chlorinated ethanes (including 1,2-dichloroethane, 1,1,1-trichloroethane, and hexachloroethane)
Chloroalkyl ethers (chloromethyl, chloroethyl, and mixed ethers)
Chlorinated naphthalene
Chlorinated phenols (other than those listed elsewhere; includes trichlorophenols and chlorinated cresols)
Chloroform
2-chlorophenol
Chromium and compounds
Copper and compounds
Cyanides
DDT and metabolites
Dichlorobenzenes (1,2-,1,3-, and 1,4-dichlorobenzenes)
Dichloroethylenes (1,1- and 1,2-dichloroethylene)
2,4-dichlorophenol
Dichloropropane and dichloropropene
2,4-dimethylphenol
Dinitrotoluene
Diphenylhydrazine
Endosulfan and metabolites
Endrin and metabolites
Ethylbenzene
Fluoranthene
Haloethers (other than those listed elsewhere; includes chlorophenylphenyl ethers, bromophenylphenyl ether, bis(dischloroisopropyl) ether, bis(chloroethoxy) methane and polychlorinated diphenyl ethers)
Halomethanes (other than those listed elsewhere; includes methylene chlorid methylchloride, methylbromide, bromoform, dichlorobromomethane, trichlorofluoromethane, dichlorodifluoromethane)
Heptachlor and metabolites
Hexachlorobutadiene
Hexachlorocyclohexane (all isomers)
Hexachlorocyclopentadiene
Isophorone
Lead and compounds
Mercury and compounds
Naphthalene
Nickel and compounds
Nitrobenzene
Nitrophenols (including 2,4-dinitrophenol, dinitrocresol)
Nitrosamines
Pentachlorophenol
Phenol
Phthalate esters
Polychlorinated biphenyls (PCBs)
Polynuclear aromatic hydrocarbons (including benzanthracenes, benzopyrenes, benzofluoranthene, chrysenes, dibenzaanthracenes, and indenopyrenes)
Selenium and compounds
Silver and compounds
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)
Tetrachloroethylene
Thallium and compounds
Toluene
Toxaphene
Trichloroethylene
Vinyl chloride
Zinc and compounds

At the present time six chemicals have been designated as hazardous air pollutants under section 112 of the Clean Air Act, as follows:

Asbestos
Beryllium
Mercury
Vinyl chloride
Benzene
Radionuclides

At the present time there are no chemicals which have been listed as toxic under section 7 of the Toxic Substances Control Act.

Under section 3001 of the Solid Waste Disposal Act a waste is listed as hazardous for any one of the following three reasons:

—First, the Administrator of the Environmental Protection Agency has determined that it meets one of the statutory characteristics

*The term "compounds" shall include organic and inorganic compounds.

of hazardous waste in the definition under section 1004(5) of the Solid Waste Disposal Act;

—Secondly, the Administrator has determined that the waste has been found to be fatal to humans in low doses (or has a low animal oral, inhalation or dermal LD/LC 50) or otherwise is capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness.

—Finally, the Administrator has determined that the waste contains any of some 400 acutely hazardous chemicals, unless after considering such factors as the concentration of those chemicals in the waste, the amount of waste generated, and the potential of the chemicals to migrate from the waste, the Environmental Protection Agency concludes that the waste is not capable of posing a substantial present or potential hazard to human health or the environment when improperly managed.

Under section 2(b)(13)(C) of the reported bill, any material which is listed as a hazardous waste under section 3001 (including listed process wastes) or identified as a hazardous waste pursuant to the characteristics published under section 3001 is a hazardous substance under S. 1480.

At the present time the Environmental Protection Agency has promulgated rules providing for the identification and listing of hazardous waste at 40 CFR Part 261 (45 FR 33119, May 19, 1980). These regulations must be referred to to determine the hazardous wastes and their constituents which are hazardous substances for purposes of S. 1480. Any material listed as a hazardous waste or hazardous constituent is a hazardous substance for the purposes of S. 1480 regardless of whether it is a waste.

It should be noted that any substance or material for which regulation is specifically suspended by Act of Congress under the Solid Waste Disposal Act is excluded from designation as a hazardous substance for the purpose of S. 1480, notwithstanding the presence in such substance of any hazardous or toxic chemical.

Thus drilling muds and brines, which will have been excluded from regulation by the 1980 amendments to section 3001 of the Solid Waste Disposal Act, are not hazardous substances under S. 1480.

The second basic mechanism for designating hazardous substances under section 2(b)(13)(F), is the addition of substances just for the purposes of this bill under section 3(a)(2).

Section 3(a)(2) authorizes the President to designate as hazardous substances those compounds, elements, mixtures, and solutions which may present substantial danger to public health and welfare and the environment. This provision essentially authorizes the President to augment the existing lists of hazardous substances derived from existing statutes (see, section 2(b)(13)(A), (B), (C), (D), and (E)). The language of this provision has a lower threshold for designation than that currently in place in section 311(b)(2) of the Clean Water Act. This is intended to afford the President broad discretion in designating substances which may adversely affect public health or the environment.

Section 3(a)(2) also authorizes the President to establish for each additional hazardous substance so designated a single quantity which,

if released, discharged, or disposed of, must be reported pursuant to section 3(a)(3)(A). This does not in any way imply or require that such quantities be determined for any other hazardous substances as defined in section 2(b)(13) (A) through (E).

The provision intentionally omits from the requirement to determine "reporting" quantities any reference to harm or hazard. A single quantity is to be determined for each hazardous substance, and this single quantity requires notification upon release into any environmental medium. It would be virtually impossible to determine a single quantity applicable to all media while at the same time linking such quantity to any subjective concept of harm.

It is essential that such quantities be relatively simple for those subject to notification requirements to understand and comply with. Since releases in such quantities trigger notification requirements, but do not, in and of themselves, give rise to other liabilities under this Act, the Presidents' broad discretion to select quantities will not unfairly burden those persons subject to the Act.

In determining reportable quantities under this paragraph, the President may consider any factors deemed relevant to administering the reporting requirements or the President's other responsibilities under this Act. Administrative feasibility and practicality should be primary factors. In addition, the President may revise such regulations from time to time if under-reporting or over-reporting is occurring under existing regulations.

In addition, under section 2(b)(13)(G) a "hazardous substance" is defined generically as follows:

> any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.

This generic definition is included because hazardous substances characteristically are not included on a governmental list until after they have demonstrated their danger by killing or injuring people or causing significant environmental damages. The actual listing of a substance lags behind release and exposure by years and sometime decades. This happens even though the persons responsible for manufacturing or handling the substances usually know, either through experience or scientific studies, of the substance's dangerous propensities.

Examples of substances added to lists only after they caused harm, even though there was reason to know of their dangerous qualities earlier, include asbestos, kepone, and organic mercury. Some substances have not been included on one of the relevant lists even after they have, in fact, caused grievous injuries.

On April 11, 1980, Senator Stafford wrote the Environmental Protection Agency to ask whether certain substances were included on any of the lists referenced in subparagrapahs (A) through (F) of S. 1480.

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The chemicals that he asked about were selected because they had, in fact, caused documented injuries. Dibromochloropropane, for example, is known to have caused sterility in workers, yet it is not included on any of the referenced lists.[5] It is for this kind of example that subparagraph (G) is included in the bill.

Subparagraph (G) describes substances which are harmful to humans and includes them within the scope of S. 1480 whether they are included on a regulatory list or not. The definition was intentionally made broad in order to assure that any substance or agent which causes disease in humans, whether it is an element, chemical, pathogen, or mixture, is included. Of course, if a substance is determined as "hazardous" only by virtue of section 2(b)(13)(G)—that is, it meets the subparagraph (G) definition, but is not a designated hazardous substance under subparagraphs (A) through (F)—the consequences under this bill are less than if it has been on one of the lists. Under S. 1480 as reported, the Fund is available for government response and claims for damages caused by a substance considered hazardous under section 2(b)(13)(G) but cannot collect its costs under the special liability provisions of the bill. Instead, the Fund and any private damage action must rely on common law or other tort which would otherwise apply.

If, however, the President has responded to a release of such a substance as an imminent or substantial danger to public health or welfare under section 3(c)(1), the Fund and any private damage party may use section 4 to recover. The ability of the President to respond to substance defined as hazardous under section 2(b)(13)(G), however, should make response to such substances under a declaration of imminent or substantial danger less necessary or common.

Under section 2(b)(13), petroleum, including crude oil and including fractions of crude oil which are not otherwise specifically listed or designated as hazardous substances under subparagraphs (A) through (F) of the definition, is excluded from the definition of a

[5] The reply is reprinted as follows:

U.S. ENVIRONMENTAL PROTECTION AGENCY,
Washington, D.C., April 15, 1980.

Hon. ROBERT T. STAFFORD,
U.S. Senate,
Washington, D.C.

DEAR SENATOR STAFFORD: This is in response to your letter of April 11, 1980 requesting information on whether several chemical substances are included on lists compiled pursuant to certain environmental statutes.

None of the chemical substances listed in your April 11 letter are included on lists compiled pursuant to section 307 or section 311 of the Federal Water Pollution Control Act. No chemical substances have had actions taken against them under section 7, the "Imminent Hazard" section, of the Toxic Substances Control Act (TSCA). However, the following chemical substances, along with their Chemical Abstract Service (CAS) number, are listed in the inventory required by section 8(b) of TSCA:

ONA—Orthonitroaniline [88-74-4]
DBCP—dibromochloropropane [96-12-8]
PBB's—polybrominated biphenyls [several numbers]
Isobutyronitrile [78-82-0]
Hexachlorobicycloheptadiene [3389-71-7]

The listing of chemical substances which will be defined as hazardous waste under section 3001 of the Resource Conversation and Recovery Act will be promulgated by the end of April. We would be happy to inform you of the status of the chemical substances under section 3001 at that time.

Finally, one substance you inquired about, hexachlorobicycloheptadiene is on a list of 43 chemical substances under assessment for listing under section 112 of the Clean Air Act.

I hope this letter has responded fully to your inquiries. Please let me know if you need any further information.

Sincerely yours,

SUSANNE L. WELLFORD,
Acting Director,
Office of Legislation.

hazardous substance. The reported bill does not cover spills or other releases strictly of oil. It is also important to note that natural gas, liquified natural gas (LNG), and high BTU synthetic gas of pipeline quality (or mixtures of natural gas and such synthetic gas) are not considered hazardous substances within the purposes of S. 1480.

Liability

Section 4 of the reported bill provides that—

(1) the owner or operator of a vessel or a facility,

(2) any person who at the time of disposal of any hazardous substance owned or operated any facility or site at which such hazardous substances are disposed of,

(3) any person who by contract, agreement, or otherwise arranged for disposal, treatment, or transport for disposal or treatment by any other party or entity of hazardous substances owned or possessed by such person, at facilities or sites owned or operated by such other party or entity and containing such hazardous substances, and

(4) any person who accepts any hazardous substances for transport to disposal or treatment facilities or sites selected by such person,

from which a hazardous substance is discharged, released, or disposed of or from which any pollutant or contaminant is released resulting in action under section 3(c)(1) of the Act, shall be jointly, severally, and strictly liable for all removal costs and specified damages.

S. 1480 provides incentives to all involved with hazardous substances to assure that such substances are handled with the utmost of care. Consistent with the concept of strict liability, persons can not escape liability by "contracting away" their responsibility or by alleging that the incident was caused by the act or omission of a third party. The only exception to this liability scheme arises where the person can prove that the discharge, release, or disposal was caused solely by an act of God or an act of war. This liability scheme essentially codifies the common law liability standard applicable in cases involving hazardous substances and materials. This liability standard is intended to induce potentially liable persons to voluntarily mitigate damages rather than simply rely on the government to abate hazards.

The specific items of removal costs and damage which may be recovered under the authority of S. 1480 are enumerated in section 4(a) (1) and (2). The purpose of those provisions, taken together with the rules for proving medical and natural resource losses, is to calculate the economic losses caused by a release as closely as possible. Since S. 1480 is designed to assure that products reflect their true costs, the bill is at its most efficient when such actual costs are calculated to the penny. The converse of this is that certain items of damage which are not economic in nature are not recoverable under the provisions of S. 1480. The most notable of these is pain and suffering.

The specific items recoverable under the provisions of S. 1480 are as follows:

(1) all costs of removal or remedial action incurred by the United States Government or a State, and any other costs or expenses incurred by any person to remove a hazardous substance as the terms "remove" or "removal" are defined in section 311(a)(8) of the Clean Water Act; and

(2) all damages for economic loss or loss due to personal injury or loss of natural resources resulting from a discharge, release, or disposal of a hazardous substance, including—

(A) any injury to, destruction of, or loss of any real or personal property;

(B) any loss of use of real or personal property;

(C) any injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss;

(D) any loss of use of any natural resources, without regard to the ownership or management of such resources;

(E) any loss of income or profits or impairment of earning capacity resulting from personal injury or from injury to or destruction of real or personal property or natural resources, without regard to the ownership of such property or resources;

(F) all out-of-pocket medical expenses, including rehabilitation costs or burial expenses, due to personal injury; and

(G) any direct or indirect loss of tax, royalty, rental, or net profits share revenue by the Federal Government or any State or political subdivision thereof, for a period of not to exceed one year.

It should be clear, as under section 311, if an innocent third party's property is damaged pursuant to authorized removal or remedial operations those damages are part of the cost of removal or remedy payable from the fund and chargeable to the owner or operator.

The general rule is that to hold the person factually responsible for damage to another liable, a victim must show "fault" or negligence. But for abnormally dangerous activities, the law imposes a rule of strict liability, under which the victim is not required to show that the person who injured him was guilty of moral misconduct.

The rule of strict liability applies to "abnormally dangerous" activities, and a variety of other fields as well. The most notable of these other areas is products liability, but also included are intentional torts (such as trespass, assault, battery, and intentional infliction of mental distress). In addition, the Congress and State legislatures have codified the rule of strict liability in a variety of other fields as well. These include oil pollution, nuclear incidents, and spills of hazardous substances, S. 1480 extends the statutory affirmation of strict liability found in these specialized statutes to hazardous substance incidents generally.

S. 1480 declares the manufacture, use, transportation and disposal of hazardous substances to be abnormally dangerous activities for the purposes of this Act and, therefore, subject to a rule of strict liability. For some types of these abnormally dangerous activities, there are specific exclusions from the strict liability regime of S. 1480. In those areas, the Fund or injured third parties must rely on common law or other statutes for recovery.

Strict liability has been imposed either judicially or legislatively for a variety of activities. At one time strict liability (or "no fault" liability) was the prevailing way of allocating loss. One reason for imposing strict liability was laid out in 1866 in the English case of *Rylands* v. *Fletcher*—

> We think the true rule of law is that the person who for his own purposes brings on his land and collects and keeps there anything likely to do mischief if it escapes, must keep it at his peril, and if he does not do so is prima facie answerable for all the damage which is the natural consequence of its escape.

The rule of *Rylands* v. *Fletcher*—strict liability for ultra hazardous activities—has been accepted and applied throughout the United States, under one name or another. Incidents to which it has been applied include the transportation of hazardous substances; the spraying of hazardous substances; the emission of noxious gases; the impoundment of slimes; and the keeping of explosives and flammables.

One other major area where a strict liability regime applies is products liability, where manufacturers and sellers are held strictly liable for damages caused by a product sold in a "defective" condition. The "defect" may include a failure to warn of the dangers associated with the product, even where the warnings would not have reached the ultimate consumer. An illustrative application of the rule was the tragic poisoning of a New Mexico family. In that case, the "consumers" of the product were the children of a janitor who had obtained feed corn from a granary. The corn was fed to the families' hogs, which were slaughtered and eaten. The grain—intended to be used as seed, not food—had been treated wth an organic mercury compound to prevent loss due to spoilage or disease. The children were stricken by organic mercury poisoning and suffered permanent, irreversible loss of sight, speech, and hearing. The court held that failure to warn of the specific consequences of ingestion of the mercury compound constituted a defect, although under the facts of the case this information would not have been communicated to the father, much less the children.

POLICY CONSIDERATIONS

Strict liability is applied to these and other cases for a variety of reasons. Chief among these are questions of fairness and equity. One additional purpose of S. 1480's strict liability scheme is to assure that the costs of injuries resulting from defective or hazardous substances are borne by the persons who create such risks rather than by the injured parties who are powerless to protect themselves. Most risks are not inevitable. On the contrary, many can be minimized or eliminated altogether through the exercise of greater care. By holding the factually responsible person liable, S. 1480 encourages that person—whether a generator, transporter or disposer of hazardous substances—to eliminate as many risks as possible.

But some risks cannot be eliminated. The question then is whether the loss should fall on the victim or the person who created the risk. The issue is really one of fundamental fairness.

The approach of S. 1480 was well expressed in *Green* v. *General Petroleum Company* (a 1928 California case) where the court held oil drilling in a residential area to be an ultra hazardous activity for which strict liability should be invoked:

> Where one, in the conduct and maintenance of an enterprise lawful and proper in itself, deliberately does an act under known conditions, and, with knowledge that injury may result to another, proceeds, and injury is done to the other as the direct and proximate consequence of the act, however carefully done, the one who does the act should, in all fairness, be required to compensate the other for the damage done.

In some of these cases the choice is not between an innocent victim and a careless defendant, but between two blameless parties. In such cases the costs should be borne by the one of the two innocent parties whose acts instigated or made the harm possible.

The advantage of this approach is not only that it is fair, but that it will cause the economy to operate better. Strict liability is, in effect, a method of allocating resources through choice in the market place.

The most desirable system of loss distribution is one in which the prices of goods accurately reflect their full costs to society. This therefore requires, first, that the cost of injuries be borne by the activities which caused them, whether or not fault is involved, because, either way, the injury is a real cost of these activities. Second, it requires that among the several parties engaged in an enterprise the loss be placed on the party which is most likely to cause the burden to be reflected in the price of whatever the enterprise sells.

Two benefits flow from imposing strict liability in this manner:

(1) the adverse impact of any particular misfortune is lessened by spreading its cost over a greater population and over a larger time period; and

(2) social and economic resources are more efficiently allocated when the actual costs of goods and services (including the losses they entail) are reflected in their prices to the consumer.

OTHER STRICT LIABILITY SCHEMES

S. 1480 represents an attempt to fill voids left by a variety of other Federal strict liability statutes which respond to and compensate the victims of hazardous substance releases. Most of these statutes are single purpose, concerned only with a narrow class of victims or a narrow class of substances. These other statutes include the following:

Section 311 of the Federal Water Pollution Control Act

Section 311 of the Federal Water Pollution Control Act establishes a revolving fund to finance the Federal cleanup of spills into navigable waters of oil or designated hazardous substances. The response includes restoration of natural resources. Although the fund is maintained through appropriations, dischargers are strictly, jointly and severally liable for all costs incurred during cleanup. Section 311 does not, however, include third party damages.

Outer Continental Shelf Lands Act

Unlike section 311 of the FWPCA, the Outer Continental Shelf Lands Act Amendments of 1978 create fund and liability schemes designed specifically to compensate third parties for damages caused by oil production on the Outer Continental Shelf (OCS).

a. *Offshore Oil Spill Pollution Liability and Compensation.*—This Fund is available to finance cleanup costs and compensate injuries caused by discharges from certain vessels and offshore facilities operating on the OCS. Compensable economic losses include:

—Injury to, destruction of, or loss of use of real or personal property;
—Injury to, destruction of, or los of use of natural resources;
—Loss of profits caused by damage to real property, personal property or natural resources; and
—Loss of tax revenue for 1 year due to injury to real or personal property.

Payments may be made initially from the Fund (which is maintained by a 3 cent per barrel fee on oil obtained from the OCS), but the responsible parties are strictly, jointly and severally liable. If they do not step forward, the Fund may sue them as a subrogee.

b. *Fisherman's Contingency Fund.*—The OCS Amendments also provide a special compensation mechanism for a select class of injured parties, commercial fishermen.

This Fund covers "actual and consequential damages, including loss of profits, due to damages to, or loss of, fishing gear by materials, equipment, tools, containers, or other items associated with oil and gas exploration, development or production activities." The Fund's efforts are coordinated with Department of the Interior regulations aimed at color coding, stamping or labeling of oil production equipment used in the OCS.

The Price-Anderson Act

The Price-Anderson Act amended the Atomic Energy Act to add the equivalent of a Federal liability and compensation scheme for damages caused by those serious "nuclear incidents" designated by the Nuclear Regulatory Commission as "extraordinary nuclear occurrences" The coverage is broad, as a "nuclear incident" may potentially include "any occurrence . . . causing . . . damage . . . arising out of . . . the radioactive, toxic, explosive or other hazardous properties . . ." of nuclear materials. The Price-Anderson Act imposes strict liability for all offsite public damages caused by an extraordinary nuclear occurrence.

The Trans-Alaska Pipeline Safety Act

The Trans-Alaska Pipeline Safety Act (TAPS) establishes a liability and compensation mechanism comparable to that of the Outer Continental Shelf Lands Act. The law imposes a strict liability on those handling Alaskan oil for damages caused if it is spilled. The regime applies not only to ruptures of the pipeline, but accidents involving a release of pipeline oil at United States ports or other such terminals.

As in the OCS Act, a fund is available to compensate third parties if the spiller either cannot or will not. The Fund may then sue the spiller as a subrogee. The liability standard remains one of strict liability whether the plaintiff is the fund or the original injured party.

Deepwater Port Act

The OCS Lands Act pattern is also replicated in the Deepwater Port Act: the spiller of deepwater port oil is strictly liable, but a Fund is available to compensate parties if the responsible party cannot or will not.

State Strict Liability Laws.—States have responded to the specific problems of hazardous substance releases by the enactment of a variety of laws. Responding to a request from the Senate Committee on Environment and Public Works, the Library of Congress identified twelve states which had enacted laws recognizing a right of recovery for damages suffered by private persons. Most of these expressly impose strict liability. Those states were: Alaska, California, Florida, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, North Carolina, Oregon, South Carolina, and Washington. Pennsylvania also expressly imposes strict liability, though its statute is apparently restricted to escapes of oil from pipelines which pollute wells.

Federal Causes of Action

Out of respect for the Federal system created by the Constitution, the Congress is generally reluctant to create a cause of action found on Federal law which might duplicate causes founded on State law. Indeed, it is primarily for this reason that the cause of action established by this bill is restrained in the types of incidents covered, the types of damages which are compensable, the classes of victims protected and the like. Nevertheless, the Congress has not hesitated to enact remedial legislation conferring a Federal cause of action where there was a clear need. The Library of Congress identified thirty examples of such laws based on a brief review of the United States Code, but some of the notable examples include the following:

Fair Credit Reporting Act.—A consumer credit reporting agency which fails to comply with the act is liable under a Federal cause of action to the consumer for not only actual injuries resulting from the failure, but for attorney's fees and court costs if the action is successful.

Securities Acts of 1933 and 1934.—A person who acquires a security (e.g. stock or mutual fund shares) because of false representations in the registration statement filed with the Securities and Exchange Commission (or some other corporate statements) has a Federal cause of action against the registrate.

Clayton Antitrust Act.—A person injured because of a violation of this act enjoys a Federal cause of action under which treble damages, attorney's fees and court costs are recoverable.

Taft-Hartley Act.—A person injured by an unfair labor practice, whether a union's or an employer's, has a Federal cause of action for recovery of damages.

Magnuson-Moss Warranty Act.—A consumer damaged by the failure of a supplier, warrantor or service contractor to comply with the provisions of the Act has a Federal course of action.

These statutes and the others identified by the Library of Congress include only those Federal laws which authorize money damages, not the many others under which injunctive relief may be granted. In addition, these are statutes where the purpose was not to supplement Federal enforcement (e.g. by creating "private attorneys general"),

but to compensate victims. Generally, however, they share a common quality with S. 1480: they respond to a need for remedial legislation required because State systems have been unable to provide redress for injured persons.

Effective Dates of Liability Provisions

Section 4(n) specifies how claims for certain damages occuring before the date of enactment will be handled under S. 1480. Costs of removal (cleanup and containment) are not affected by this provision, nor are any damages associated with continuing releases.

Section 4(n)(1) provides that neither the liability scheme in S. 1480 nor the Fund can be used to recover for natural resource and property damages when the damages and the release of hazardous substances causing such damages occurred prior to enactment of S. 1480. This provision allows for recovery only of prospective natural resource and property damages. The bill does not preclude use of the remedies which were available for recovery of damages prior to enactment. Damages which are being repaired as part of a cleanup action under the Fund are not affected by this provision, and the Fund may recover for such cleanup expenditures.

Section 4(n)(2) provides that the liability scheme of S. 1480 and payment from the Fund would not be available for recovery of damages for medical expenses and personal injury-related loss of income for a claimant whose exposure to a hazardous substance release was completed prior to January 1, 1977, and who discovered a resultant injury or illness prior to January 1, 1977. Such a claimant could seek such damages under common law or other tort law. The intent of this provision is to limit claims for personal injury to those when the exposure and the discovery of the resultant injury or disease have both occurred before a specific point in time.

The January 1, 1977, date was chosen to assure that certain well-known hazardous substance disposal occurrences, such as Love Canal, would be covered by the liability scheme of S. 1480. The date also approximates the enactment of the Resource Conservation and Recovery Act amendments to the Solid Waste Disposal Act, which provide for implementation of strategies to control the transportation, storage, and disposal of hazardous wastes.

Section 4(n)(3) provides that the liability provisions of S. 1480 are not available to a claimant seeking damages whose exposure to a hazardous substance release was completed prior to January 1, 1977, but who did not discover a resultant illness until after January 1, 1977. A claimant is not precluded from recovery of medical expenses and personal injury-related loss of income, profit, or impairment of earning capacity from the Fund, but would not be able to sue the responsible party under the causes of action provided in the bill. The Fund would seek recovery of any compensation under the existing common law or other applicable statutory law. The claimant could also pursue the liable party under such existing remedies.

This provision specifies that the costs of permanent and temporary relocation of residences and providing of alternative water supplies are considered removal or cleanup costs. Such costs are not affected by the effective dates in this subsection.

This provision does not preempt or change in any way the liability of any individual under other existing law for damages or losses resulting from hazardous susbtance releases.

Apportionment Factors

Section 4(f)(1) provides for modifying the rule of joint and several liability by limiting liability under certain limited conditions. Any such limitation may be considered only following determination of liability under section 4(a). Limitation occurs where a liable person can demonstrate by a preponderance of the evidence that his contribution to the discharge, release, or disposal can be distinguished or apportioned. Such person must also demonstrate by the preponderance of the evidence that his contribution was not a significant factor in causing or contributing to the discharge, release, or disposal, or the damages resulting therefrom. If the liable person establishes these two prerequisites, the court must limit such liable person's liability to that portion of the release or damages to which such person contributed.

Any person found jointly and severally liable with one or more other persons is entitled, after paying into the fund of the court the amount for which he is held liable, to seek contribution from such other persons to the extent of their proportionate liability. In addition, if a person held liabile alleges that the release, discharge, or disposal or the consequent damages are due in whole or in part to the acts or omissions of a third party, such liable person retains all rights against such third party, and may join such party in an action under section 4 or section 6(c). In any action under section 4(f)(1) or (2), the claimant is not to be considered an indispensable party.

Section 4(f)(4) provides a list of factors the court may consider in limiting or apportioning lability under section 4(f)(1) and (2). This section provides guidance for the courts in (1) limiting the liability of a person who is an insignificant factor in a release to his proportionate share of the costs or damge or (2) in apportioning liability among those significant factors in causing a release, who are, under section 4, to be held jointly and severally liable for costs or damages.

As between a claimant and a releaser, this provision does not authorize the limitation of liability of a person who is a significant factor in a release; the ordinary rule of joint and several liability applies to those who are a significant factor in a release. However, courts have exercised their equitable powers to occasionally limit liability even for significant contributors, and this discretionary power is likely to continue to be exercised. In addition, under section 4(f)(2), or in the ordinary course of litigation after judgment has been rendered, some courts may have applied the rule of *pro tanto* contribution in apportioning liability among several tortfeasors. Section 4(f)(4) provides the courts with guidance on factors to consider in more equitably apportioning liability, rather than relying on the *pro tanto* rule, as well as in limiting liability in the situations discussed above.

The factors which may be considered include the following:

(1) The ability of the party to demonstrate that his contribution to the release can be distinguished;

(2) The amount of hazardous substance involved. Of course, a small quantity of a highly toxic material, or above which releases

or makes more dangerous another hazardous substance, would be a significant factor;

(3) The degree of toxicity of the hazardous substance involved;

(4) The degree of involvement of the person in the manufacture, treatment, transport, or disposal of the hazardous substance; and

(5) The degree of cooperation between the person and the Federal, State, or local government in preventing harm to public health or the environment from occurring from a release. This includes efforts to mitigate damage after a release occurs.

Medical Expenses Causation

Section 4(c), the medical causation provisions of S. 1480, attempt to adapt the system of proof developed originally for use with accidents to one more suitable for proof of disease. The effect of the bill's provisions is to prevent a victim-plaintiff from being thrown out of court on procedural grounds when there appears to be merit to a claim.

The causation provisions are among the most discussed and closely examined of any in the bill. Indeed, they were revised and perfected throughout the course of S. 1480's consideration. Even though the provisions were often examined and often rewritten, they were included in the reported legislation because a review of toxic substances complaints and litigation leads to the inescapable conclusion that changes need to be made.

GENERAL PROVISIONS OF SECTION 4(C)

First, section 4(c) specifically authorizes the admission of medical and scientific studies in a court of law. Such evidence (e.g. tests on laboratory animals or microorganisms) has been excluded by some courts. The practical consequence of such exclusion is to wrongfully deny the plaintiff the opportunity to prove his case. Such evidence sometimes does not meet the high standards of probative value preferred by courts, but it may be the only evidence available. Such evidence ordinarily ought to be allowed to be considered by the trier of fact, whether the defendant is seeking to eliminate it on the basis of irrelevancy or on the basis of the waste of time, confusion or prejudice grounds.

Second, the bill provides that when the plaintiff has shown a reasonable likelihood that his disease resulted from release of the toxic substance, a presumption is created in his favor. This presumption does not guarantee that the plaintiff will win nor does it place on the defendant the "burden of disproof". However, the presumption does assure that the plaintiff will not be thrown out of court on purely procedural grounds. The burden of proof remains with the plaintiff, as under existing law, but the procedural advantage which the law confers on the defendant is eliminated.

BACKGROUND

The American judicial system is accustomed, by and large, to dealing with questions of cause in the context of accidents, not diseases. Accidents are dramatic, time-definite events for which there is a clear

and immediate relationship between cause and effect. In contrast, diseases develop over time and may fail to manifest themselves until distant from the cause. Moreover, diseases sometimes result from a combination of causes, not just one. This is not to say that the cause of disease is not provable; it is. The problem is that rules evolved in the context of broken bones or violent explosions are often inadequate to deal with the long-latency diseases. This view is shared by many legal and scientific commentators.

> The case studies also indicate that plaintiffs in toxic pollution suits may have substantial difficulty in proving that a particular exposure to a pollutant was the cause in fact of an injury. The case studies reinforce the notion that such problems of proof can be significant barriers to recovery, both in current litigation and in litigation that may arise upon the manifestation of any latent health effects.
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> Six Case Studies of Compensation for Toxic Substances Pollution: Congressional Research Service, Library of Congress (June, 1980).

Over and over, scientists prove to their satisfaction that cause and effect are related by virtue of their strong statistical association. For example, a certain lung disease develops in persons exposed to a chemical and not in those not exposed. This may be either an 100 percent relationship or of some lesser degree, but high enough to give the scientist confidence in his position. However, most courts tend to reject statistical testimony as "hearsay" or the like. Courts are in error in rejecting statistical evidence. It is of the highest quality and entirely acceptable to scientists. Further, no issue is being finally determined on this basis. There will be other evidence on the issue presented to the jury. Many experts, in testifying as to etiology, rely upon statistics, whether or not they acknowledge it or are even aware of it. A few courts have expressly allowed statistics.

> *Toxic Torts*, Tort Actions for Cancer and Lung Disease Due to Environmental Pollution, The Association of Trial Lawyers of America.

It is only occasionally possible to demonstrate cause and effect between a toxic substance and a specific health condition. An example where this direct relationship exists is asbestosis. In order to have asbestosis, a person must have been exposed to asbestos. Such relationships are a rare phenomenon, however, since most health effects of toxic substances are not specific. Most conditions caused by exposures to toxic substances, as examples, liver cancer, miscarriage, or spontaneous abortion could also occur in populations not exposed. It is necessary, therefore, to make presumptions of causal relationships based upon statistical relationships and epidemiological evidence. The incidence of miscarriage and spontaneous abortion of those living in the Love Canal area was beyond that which could be expected in the general population. Thus a presumption of cause can be made.

We agree with the approach taken in . . . S. 1480. It should again be stressed that proof of direct causation may not be available, but presumption of cause can be made.

Dr. John Romani, Former President, American Public Health Association.

Many of the toxic substances that have been involved in recent pollution incidents are of relatively recent origin. Their toxic properties and their harmful effects on human health, especially the long-range effects, have not yet been fully explored, and therefore it has not been possible to establish safe tolerance levels with absolute certainty. Even the methods for detecting and measuring the presence of the substance in the water, the air, and the ground and in human and animal tissue had first to be developed before the danger could be assessed. In several instances, realization of the pernicious nature of the chemical has resulted in voluntary or mandatory discontinuation of production and elimination of existing stocks from the chain of commerce and consumption.

Traditionally, proof of actual harm has been required as a basic condition for recovery under the tort law; on the other hand, there are good reasons for relaxing that requirement or even for shifting the burden of proof on the theory that one who introduced a new manmade substance into commerce or into the environment must make sure that it does not carry an unreasonable risk of harm. The necessary research to determine possible harmful effects and safe levels should come before release; if it is omitted, the resulting uncertainty can reasonably be charged to the producer or the polluter or to both.

American Bar Foundation Research Journal, Spring 1979.

Producing the evidentiary showing required to sustain the substantive proof of legal causation is an undertaking of no small magnitude. Logically, to prove causation, the plaintiff must be able to (1) isolate the harm-causing substance, (2) trace its pathway of dispersal from the polluter to the victim, and (3) show the etiology of the harm-causing substance. Without extensive scientific data these elements of causation cannot be firmly established. But introducing scientific studies—especially a full scale epidemiological study—does not guarantee success in proving causation.

Assuredly, the defense will produce experts who can challenge the techniques of the study and the conclusions drawn from the data compiled. In this endeavor to address issues which often lie at the interface of scientific truth and reasonableness under tort law, a court may retreat from wrestling with scientific probabilities and uncertainties and choose to balance the prospective harm to human health against the social and economic value of the pollutant. In deferring to the practicalities of local economic conditions, courts may put to one side complex, technical scientific data and assumptions about the formation of mixtures, the synergistic effects of pollutants, the problem of joint polluters or the proof of causation itself. This refusal to consider scientific issues is especially likely when the experts disagree.

Harvard Journal on Legislation:

A Proposal for the Administrative Compensation of Victims of Toxic Substance Pollution: A Model Act (June, 1977).

PRECEDENT FOR MEDICAL CAUSATION PROVISIONS

Shifting presumptions are not uncommon in the law when dealing with unusual situations. The issue is whether, as a matter of policy, a presumption ought to apply to a specific set of facts. Some courts and some statutes have already applied not only a presumtion in circumstances covered by S. 1480, but a much more powerful presumption: one which goes not to procedural matters, but to the actual burden of proof.

One line of cases applying a presumption of cause are those dealing with cancer caused by trauma. In a typical case, a plaintiff receives a blow (or sometimes a succession of blows) to a point on the body where a cancer later develops. According to one commentator, the line of such cases began over a century ago and includes over 100 decisions. One court explained the standard of proof as follows:

> We concede that in the great majority of cases such testimony ordinarily is necessary because of the seeming absence of connection between a particular accident and a claimed resulting injury. But in other cases involving special and peculiar circumstances, medical evidence, although highly desirable, is not always essential for an injured employee to make out a prima facie case, especially if the testimony is adequate, undisputed and unimpeached. Thus where, as in the instant case, injury appears in a bodily member reasonably soon after an accident, at the very place where the force was applied and with symptoms believed testimony to the contrary, a natural inference that the injury, whatever may be the medical name, was the result of the employment. Absolute certainty is not required in any case. If the reasonable probabilities flowing from the undisputed evidence disclose a progressive course of events beginning with an external accident in which each succeeding happening including the injury appears traceable to the one that preceded it, medical evidence is not essential for an injured employee to make out a prima facie case.
>
> An inference, if rational and natural, based on proven facts will stand even though not supported by expert medical opinion.

Another field in which a presumption of cause has been applied for chemically induced diseases is workers' compensation. Some States (and for coal miners, the Federal government as well) have adopted a rule of presumptive causation. It is quite common for lung disease in a firefighter to be presumed to have been caused by occupational

exposure, just as a coal miner suffering from coal workers' pneumoconiosis can recover under the Federal Bluck Lung program. Similarly some courts permit recovery when the worker has been able to show only that it was "probable" that exposure had caused the disease. The types of workers to whom liberalized rules of proof have been extended include fire fighters mentioned earlier exposed to smoke and fumes; wool dyers exposed to analine dyes; a roofer exposed to tar and asphalt fumes; and other workers exposed to benzene or to fumes containing xylol and synthetic resins.

SPECIFIC PROVISIONS OF SECTION 4(C)

In response to the inadequacies of the current system, the reported bill provides the following:

For the limited purpose of recovering out-of-pocket medical expenses and rehabilitation costs, an injured party may utilize the methods of proof and evidence contained in section 4(c). To recover for other injuries (or for costs other than out-of-pocket medical and rehabilitation expenses, an injured party must utilize the methods of proof and evidence ordinarily applied by the courts in his or her jurisdiction.

Paragraph (1) of section 4(c) states what the claimant must prove in order to recover: that there was a release of a hazardous substance; that the defendant was liable for the release; that the release caused or contributed to the claimant's injury; and that his or her medical expenses were incurred in the treatment of the injury or disease. The claimant may be assisted in establishing his or her case by utilizing the presumption created in subsection (c)(3)(A). To invoke this presumption, the claimant must introduce enough evidence to permit a trier of fact to conclude, first, that the claimant had been exposed for a sufficient period of time or in sufficient quantity, to a hazardous substance in the release for which the defendant is liable under this Act; and, secondly, that there is a "reasonable likelihood" that the exposure causes or contributes to a disease or injury of the sort complained of. A plaintiff who meets this burden will benefit from a presumption that he has made a sufficient case for the burden of going forward to shift to the defendant. This provision does not affect the burden of proof, which remains with the plaintiff under rule 301 of the Federal Rules of Evidence. The presumption, once created, is intended to be conclusive against a motion to dismiss before a defendant has presented counterproof.

Subsection (c)(2) permits the use of certain types of medical or scientific evidence in proof of the causal relationship. This is included because some courts have held that, as a matter of law, animal studies, tissue studies, and other types of evidence described in the subparagraph are not probative on the issue of disease causation in humans. Of course, a court must always make the evidentiary determination of whether a specific item of evidence is sufficiently probative to be admitted. This paragraph does not lessen the obligation of the court to do this. It is difficult in any event for the Congress to control how a court will consider evidence. The paragraph does, however, represent the Congressional conclusion that animal studies, tissue studies, micro-

organism studies and the like are, as a class, relevant. Moreover, in cases involving toxic or hazardous substances, courts should, under this paragraph, admit evidence which might be excluded in other kinds of cases on the grounds of prejudice, confusion, or waste of time. Often the practical consequence of excluding such relevant evidence on these grounds is to deny the plaintiff an opportunity to prove his case. The policy in favor of admitting these types of evidence under this paragraph should be interpreted broadly. The Committee concluded, however, that this intent should be expressed in legislative history rather than statutory language in order to avoid unintended damage to areas of the law not within the scope of this bill.

Persons alleging injury as a result of a hazardous substance release are to have access to, and have the right to bring before a court as evidence, any potentially relevant information gathered by the President in the course of investigations, monitoring, surveys, testing, or other information-gathering undertaken to identify the existence and extent of a release, or threat of a release, the hazardous substances involved, the source of such substances, and the danger to public health or welfare or to the environment under section 3 of the reported bill or under other authorities. Such persons alleging injury are to have access to, and have the right to bring before a court as evidence, any epidemiological studies, information from diagnoses, long-term health effects studies, and information from registries maintained or developed under section 6(a)(1)(L) of the bill.

INDEMNIFICATION PROVISION

Section 4(i) provides that no idemnification, hold harmless, conveyance, or similar agreement shall be effective to transfer from the owner or operator of a facility, or from a person who may be liable for a release, to any other person the liability imposed under section 4. This subsection does not apply, however, to a transfer in a bona fide conveyance of a facility or site (1) between two parties not affiliated with each other in any way, (2) where there has been an adequate disclosure in writing consistent with section 3(a)(4)(C) of the Act of all facts and conditions (including potential economic consequences) material to such liability, and (3) to a transferor who can provide assurances of financial responsibility and continuity of operation consistent with the degree and duration of risks associated with such facility or site.

Nothing in section (4)(i) is intended to prohibit the purchase of insurance by common carriers to cover the liability imposed by that section, nor is it intended to prohibit agreements among common carriers or between common carriers and shippers by which one or several parties agree to indemnify the indemnitee for losses incurred as a result of liability imposed by section 4.

PESTICIDE EXCLUSION FROM LIABILITY AND CLAIMS ON FUND

The authorities in the bill for removal and remedial action necessitated by a hazardous substance release would apply to problems caused by pesticide releases, whether or not such releases were in

accordance with existing Federal or State law. However, under section 4(k), no person or State, or the Federal government, may seek recovery under the liability provision of the bill for damages or removal costs resulting from the field application of pesticides registered pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act. The prohibition in section 4(k) is a limitation only upon the liability provisions of this bill; it does not bar any person from seeking recovery under other law, such as existing tort law or common law.

Similarly, section 6(a)(4) prohibits using monies in the Fund to pay claims for personal injury or lost income resulting from the field application of a registered pesticide. This prohibition does not apply to payment of capital losses and losses of income by agricultural producers and processors and to commercial fishermen and fish and seafood processors under section 6(a)(1)(N).

In the course of its deliberations on the bill, the Committee reviewed a substantial body of evidence indicating that injuries to humans and damages to natural resources and food from pesticide releases are widespread.[6] In some cases, these injuries and damages can be traced to spillage, leakage, or improper disposal of pesticides, their residue, and wastes.

The exclusion covers only liability for "field application" of a pesticide. This is intended to mean the use of a pesticide generally in accordance with its purpose. It is not intended that failure to comply with the Federal Insecticide, Fungicide, and Rodenticide Act be a basis for invoking liability for pesticide application under this bill, or that compliance with that Act be made a defense in federal or state court under other laws.

Under these provisions, persons alleging injury or lost income (other than agricultural or fishing income covered by section 6(a)(1)(N)) due to harm by pesticide application must seek remedies other than those provided under sections 4 and 6 of the bill.

However, the prohibition on use of the fund is a narrow one, covering only those releases which are "field applications" in accordance with the purposes of the product. Claimants who are injured by spilling, dumping, disposal, or leaking of pesticides, whether intentional or accidental, would have recourse to the Fund and section 4 liability provisions under this provision. Under the claims procedure with respect to this subsection, the claimant must provide documentation of the nature of the injury and the source of the release alleged to have caused the harm. Upon occasion, it may be difficult or impossible for a claimant to show that the source of a pesticide exposure was a spilling, dumping, disposal, or emission other than a field application. In such

[6] Some of the sources used by the Committee are: "Hazardous Materials Incidents Reported to U.S. Environmental Protection Agency Regional Offices from October, 1977 through September, 1979"; EPA Oil and Special Materials Control Division, January, 1980; "Compensation for Victims of Water Pollution," Committee on Public Works and Transportation, U.S. House of Representatives, May 1979; "Environmental Contaminants in Food," Congress of the United States, Office of Technology Assessment, December 1979: "Six Case Studies of Compensation for Toxic Substances Pollution Alabama, California, Michigan, Missouri, New Jersey, and Texas," prepared by the Congressional Research Service of the Library of Congress for the Committee on Environment and Public Works, U.S. Senate, June, 1980; "Damages and Threats Caused by Hazardous Materials Sites," U.W. Environmental Protection Agency, Oil and Special Materials Control Division, February, 1980: Hazardous and Toxic Waste Disposal, hearings of the Committee on Environment and Public Works, U.S. Senate, March 28 and 29, May 18, June 20, 21, 22, and 29, July 19 and 20, and September 6 and 7, 1979.

situations, the Fund shall have the burden of showing as a condition of denying benefits, that an application was the most likely source of the pesticide release.

Fertilizer Exclusion From Definition of Release

Section 2(b)(16) excludes "normal field application of fertilizer" from the definition of the types of releases into the environment otherwise covered by the bill.

Certain feedstocks used to produce fertilizer (nitric acid, sulfuric acid, phosphoric acid, anhydrous ammonia) are hazardous substances as defined by the bill, and certain fertilizer products may be listed as hazardous substances as well. Because such products may be hazardous, their release into the environment would bring the owner or operator of the facility from which the release occurred under the notice and penalty provisions of section 3 and the liability provisions of section 4, and could trigger government response under section 3 and payment of claims under section 6.

Under this exclusion, however, the "normal field application" of fertilizer is not a "release" as defined in the bill. The applicator of the fertilizer is not subject to the notification and liability provisions, and the government does not have authority to respond or pay claims.

The term "fertilizer" includes those products identified in the Standard Industrial Classification Manual (OMB, 1972 edition) as SIC Code Nos.: 1474, 1475, 2873, 2873112, 2874, 2874185, 28193, 2810922, and 2819331. The term "normal field application" means the act of putting fertilizer on crops or cropland, and does not mean any dumping, spilling, or emitting, whether accidental or intentional, in any other place or of significantly greater concentrations or amounts than are beneficial to crops.

Federally Permitted Release

Adoption of an express Federal liability mechanism for releases pursuant to certain Federal permit systems seemed inappropriate at this time. Such a proposition was particularly troublesome for permits under section 402 of the Clean Water Act because the Congress had excluded them from the Act's section 311 liability provisions in 1978. The rule of common law is that compliance with a permit is not a defense to liability. Moreover, the Congress has never said or suggested that a Federal permit amounts to a license to create threats to public health or the environment with legal immunity. However, in view of the large sums of money spent to comply with specific regulatory programs, liability for federally permitted releases ought to be determined based on the facts of each individual case. Therefore, the reported bill authorizes response to federally permitted releases, but requires costs to be assessed against the permit holder under the liability provisions of other laws, not S. 1480.

Section 4(l) of the bill preserves the enforcement provisions of the regulatory laws. Permitted releases have some potential for causing harm and that in some emergency situations it will be difficult to distinguish between a permitted release and other sources. The President,

using the Fund, is expressly authorized to respond to problems caused by federally permitted releases. Further, the Fund would be available to pay response costs and damages covered by this bill. The Fund in recouping such costs, or any private damage actions, must rely on other law—common law or Federal or State Statutory law—in lieu of the liability provisions of section 4. The determination of exactly what liability standards, defenses, or other rules apply will be made on a case-by-case basis pursuant to regimes other than that of S. 1480.

The defined term "federally permitted release" (section 2(b)(18)) is a key element in the treatment of these releases under this bill. For purposes of this bill, it includes actions by the appropriate Federal agencies or under Federally approved State programs. Where the term "legally enforceable" is used in section 2(b)(18), to qualify for exemption from liability for any federally permitted release, the relevant terms of such permit must be legally enforceable.

Following is a discussion of the releases encompassed by the "federally permitted release" definition. These releases are excluded from the liability and notification provisions of this legislation.

The Committee continues to recognize the difficulty of marking clearly where the spill response programs of section 311 and of the reported legislation apply and where the general discharge regulatory/permit programs of section 402 apply. This issue was central to an amendment to Section 311 of the Clean Water Act enacted in 1978 and the federally permitted release provisions of the reported bill preserve that Amendment and the rulemaking taken by the Environmental Protection Agency to carry it into effect.

Because of the broadened scope of the reported bill, section 2(b)(18) contains other similar clarifications regarding pollution control programs under the wetlands protection program of section 404 of the Clean Water Act, the Clean Air Act, subtitle C of the Solid Waste Disposal Act, the Marine Protection Act, the Safe Drinking Water Act, and the Atomic Energy Act.

With respect to regulating the discharge of water pollutants under section 402 of the Clean Water Act and the relationship of that program to hazardous substance spill response under section 311 (on which the response provisions of this bill are based), the Congress addressed the problem in 1978 amendments to the definition of "discharge" in section 311. The first three parts of the section 2(b)(18) definition in this bill carry those amendments forward without change. Thus the explanation at that time and the implementing regulations of the Environmental Protection Agency are continued.

While the exemptions from liability for federally permitted releases are provided to give regulated parties clarity in their legal duties and responsibilities, these exemptions are not to operate to create gaps in actions necessary to protect the public or the environment. Thus the reporting requirement under section 402 should be amended by the Environmental Protection Agency to cause owners and operators who release substances designated under section 311 or this bill under circumstances which are now excluded from section 311, to report under section 402 in a manner similar to that required under section 311 so that the appropriate steps may be taken to protect, for instance, drinking water supplies or other downstream

resources. The current 24 hour notice period under the NPDES regulations should be amended to provide immediate notice in the event of a failure of a treatment or operating component which results in a release of a hazardous substance. Such a case recently occurred in Orangeburg, South Carolina. While exclusion from section 311 was claimed, the company's notice, which was filed in a manner consistent with section 402, was too late to protect downstream drinking water sources. This should be repaired by the Environmental Protection Agency in the regulations implementing the notice provisions of section 402.

Also because of its broadened scope, it should be clear that the liability provisions of S. 1480 would apply to any unauthorized discharges by any person into publicly-owned treatment works. Thus discharges of hazardous substances from mobile facilities which are unauthorized by the publicly-owned treatment system (midnight dumpers), or discharges of such substances from fixed facilities into sewer systems which are not authorized under a pretreatment program are releases for purposes of this Act, never excluded as federally permitted releases, and the full authority and responsibilities established by the bill would apply.

Accidents—whatever their cause—which result in, or can reasonably be expected to result in releases of hazardous pollutants would not be exempt from the requirements and liabilities of this bill. Thus fires, ruptures, wrecks and the like invoke the response and liability provisions of the bill.

The fourth element of the definition covers permits for dredged or fill material under section 404 of the Clean Water Act. Permits issued under this process are subjected to a hazardous substance review, as required by the Environmental Protection Agency, during the permitting process. Where hazardous substances are likely to be present in dredged or fill material, testing may be required. According to EPA regulations, section 404 permits will be granted only where evidence indicates that hazardous substances will not result in substantial harm. Permittees who comply with the requirements for permit issuance and the conditions of their permit would be covered by this portion of the definition.

Subparagraph (E) of the definition addresses permits issued under section 3005 (Permits for Treatment, Storage or Disposal of Hazardous Waste) of the Solid Waste Disposal Act. The reported bill tightly limits the types of disposal site releases that would be covered by this definition. First, only final permits are included. Sites or facilities which have interim status under section 3005 (e) do not adequately utilize acceptable levels of technology, and do not qualify for this exclusion. Second, to be covered by this portion of the definition, the permit applicant must specify the hazardous substance to be released and agree to controls on such releases. For example, this subparagraph would not cover permits where the permitee has built a disposal site to a design standard but for some reason it leaks a hazardous substance. For such a situation to utilize the exemption under this section the permittee would have had to designate these releases and made them subject to a standard of practice, control procedure or bioassay limitation or condition, or other control.

Similarly, a properly closed disposal site that subsequently leaked would not be covered by this definition (although such a site might well be covered by the post-closure liability portion of this bill).

The sixth element of the definition encompasses permits under the ocean dumping section (section 102) and the ocean dredging section (section 103) of the Marine Protection, Research, and Sanctuaries Act. These ocean dumping and ocean dredging permits are subjected to a hazardous substance review during the permitting process. Thus, compliance with requirements for permit issuance and the conditions of a permit issued under these sections of the Marine Protection, Research, and Sanctuaries Act would be covered by this portion of the definition.

The seventh portion of the definition addresses the Underground Injection Control program under Part C of the Safe Drinking Water Act. This provision exempts a release to the substrata of the Earth of a specific containment which is designated as hazardous under this bill, if such release is authorized and in compliance with the conditions of such authorization granted under the Underground Injection Control Program of the Safe Drinking Water Act.

Subparagraph (H) of the definition covers several sections of the Clean Air Act, as amended, where they result in the control of air emissions of hazardous substances. In the Clean Air Act, unlike some other Federal regulatory statutes, the control of hazardous air pollutant emissions can be achieved through a variety of means: express emissions limitations (such as control on the pounds of pollutant that may be discharged from a source during a given time); technology requirements (such as floating roof tanks on hydrocarbons in a certain vapor pressure range); operational requirements (such as start up or shut down procedures to control emissions during such operations); work practices (such as the application of water to suppress certain particulates); or other control practices. Whether control of hazardous substance emissions is achieved directly or indirectly, the means must be specifically designed to limit or eliminate emissions of a designated hazardous pollutant or a criteria pollutant. This section of the federally permitted release definition includes any permit or control regulation under one of the cited sections of the Clean Air Act which has this effect.

The ninth element of the definition addresses the Atomic Energy Act of 1954 which establishes a comprehensive Federal regulatory program for specified uses and classes of nuclear materials. Unlike the other environmental statutes referred to in this amendment, the Atomic Energy Act limits any delegated regulatory role for States and their political subdivisions. The most notable exception is section 274 (b), which authorizes the Nuclear Regulatory Commission to adopt agreements with individual States for transfer of regulatory authority over designated source, byproduct, or special nuclear materials.

Under either Federal or State regulatory regimes, releases of source, special nuclear, or byproduct materials that are within the terms of a license or permit issued by the Commission or by an agreement state are covered by this portion of the definition. The definition also applies to releases of designated nuclear materials, defined in sections

11e, 11z, and 11aa of the Atomic Energy Act of 1954, when those releases are made pursuant to Commission order.

The Committee does not intend for the notification elements of the bill to apply to the federally permitted releases defined in section 2 (b) (18). The laws authorizing the permit and regulations that control these releases provide for notification and such notification procedures should provide the same public benefits—especially regarding timely response—as would be provided in S. 1480. Notice is crucial to the removal and remedial operations which are central to the reported bill. The federally permitted release exceptions are not directed at avoiding notice, but rather to make it clear which provisions of law apply to discharging sources.

There are some activities which are subject to Federal or State regulation which do not fall neatly into one of the programs established to protect a particular media such as air or water or land. One of these is the application of pesticides—especially in agricultural practices. The bill provides that damage or removal costs resulting from field applications involving pesticides which are registered under the Federal Insecticide, Fungicide, and Rodenticide Act are not recoverable under the provisions of section 4 of S. 1480. It should also be clear that the notice and penalty provisions do not apply to such routine field applications. Accidents or international disposals which result in the release of a pesticide in other than its intended field application would, of course, be subject to the notice provision of the bill. Only in this manner could the preventive response mechanisms of the bill operate to protect public health.

With respect to spills and future releases, S. 1480 builds upon and carries forward the preventive orientation of section 311 of the Clean Water Act. Thus the spill prevention control program—which has been so successful in the case of oil releases—should be aggressively pursued by the Environmental Protection Agency and the Coast Guard. The Committee is disturbed that the authority of section 311 for the Secretary of Transportation to issue spill prevention programs for rolling stock and vessels has not been implemented. It is essential this authority be implemented immediately, especially with regard to trucks, barges, and railroads.

The Environmental Protection Agency should expedite the issuance of the spill prevention program applicable to designated hazardous substances.

Response Mechanism

Section 3(c) is the basic provision which authorizes the Federal Government to act to abate problems resulting from a release, discharge or disposal of hazardous substances into the environment.

The bill establishes two levels of government response to any release discharge or disposal of hazardous substances—"removal" and "remedial action". Subsection 2(b)(1) provides that "remove" or "removal" has the same meaning as provided in section 311(a) of the Clean Water Act. Subsection 2(b)(17)(B) clarifies that "remove" or "removal" also includes, but is not limited to, provision of security fencing or other measures to separate people from hazardous substances, provision of alternative drinking water supplies, temporary evacuation and housing of threatened individuals if not otherwise provided, and any emergency assistance under the Disaster Relief Act of 1974.

Section 2(b)(7) defines "remedial action" or "remedy" as actions to prevent or minimize any continued discharge or release of hazardous substances or significant threat of such, so that the substances will not migrate further and cause substantial danger to present or future public health, welfare or the environment. The actions taken must be consistent with eventual permanent remedial action if additional actions will be necessary at a later date to obtain a permanent remedy. Remedy is not available for hazardous substance disposal sites which are in compliance with their section 3005(a–d) permit issued under subtitle C of the Solid Waste Disposal Act since such situations are covered by existing law. However, remedy is authorized for disposal sites which are either not in compliance with section 3005 (a–d) or which have only interim status under section 3005(e). The definition of remedy lists a number of examples of the type of actions included in the term. Three of these actions—permanent relocation; offsite transport of hazardous substances or their storage, treatment, destruction or secure disposition offsite; and provision of permanent alternative drinking water supplies—are included as remedial actions only when certain criteria are met.

Subsection (3)(c)(1) allows the President either to remove or arrange for the removal of hazardous substances released, discharged or disposed of and to provide for remedial actions at any time. The President may also provide for removal and remedial actions when there is a substantial threat of a discharge or release of hazardous substances into the environment. The President may also respond to the release or substantial threat of release of any other materials to the environment which may present an imminent or substantial danger to the public health or welfare, regardless of the source of the release. The President may act if he determines that the owner or operator of a vessel, onshore facility or offshore facility at which the discharge, release or disposal occurs or any other responsible party will not properly provide removal and remedial action.

Removal and remedial actions cannot continue in excess of $1,000,000 or longer than six months from the date of the initial response to that specific release unless either of two conditions exist. Removal may continue if immediately required to prevent, limit or mitigate an emergency; there is an immediate risk; and such assistance on a timely basis will not otherwise be provided. Remedial actions may be undertaken after removal actions have consumed 6 months or $1,000,000 if the President has determined the appropriate remedial actions in consultation with the affected State, and if the State where the release is located has complied with section 6(a)(2)(A).

The limitation on continuing removal actions and beginning remedial actions in no way constrains use of the Fund to identify the existence and extent of a known or suspected release, discharge or disposal or substantial threat of such, the materials involved and their source, or the dangers they may represent. In addition, without regard to any limitations on continuing removal or remedial actions the Fund's resources may be used to determine the appropriate Federal and/or state government response, recover costs of such response and enforce the provisions of the Act.

The President is directed to update the National Contingency Plan originally published for section 311 of the Clean Water Act so that the plan reflects the responsibilities and powers created by S. 1480. In particular the revision will add a new section to the Plan to give some consistency and cohesiveness to response planning and actions under this bill. The Plan would include among other items:

(1) appropriate roles and responsibilities for Federal, State and local authorities and non-governmental entities;

(2) methods for discovering and investigating sites of disposed hazardous substances and in-place concentrations of such substances;

(3) methods and criteria for determining the appropriate extent of response measures;

(4) methods for evaluating remedial actions; and

(5) provision for obtaining prepositioning and maintaining necessary response capabilities.

After the revised plan is published, removal and remedial actions should be in accordance with the Plan to the greatest extent possible.

Subsection 6(a)(2) defines the role and responsibilities of State and local government in all removal and remedial actions paid for by the Fund. In addition, this subsection provides for the establishment of priorities for using the Fund in government response.

Subsection 6(a)(2)(A) restricts use of the Fund for remedial actions unless the State containing the source of the release or discharge first gives adequate assurance that certain conditions, if applicable, will be met. Three of the five conditions require State (or local government) cost sharing. The State must pay at least 10 percent of the costs of remedial actions in all cases. If, however, the facility or site was used for the disposal of hazardous substances and was owned by the State or a local government at that time, then at least 50 percent of the costs of removal must be recovered by the Fund from the State and/or the local government. If these removal or remedial actions will require continuing maintenance, then the State must assume responsi-

bility for performing these maintenance activities. However, the State may obtain compensation from the Fund for 90 percent of these costs during the authorized life of the Fund. The State may also be required to first agree to two other conditions. If offsite storage, destruction, treatment or secure disposition is required as part of the remedial actions, then the State is responsible for assuring the availability of any necessary offsite disposal facilities and for assuring that these facilities comply with the requirements of subtitle C of the Solid Waste Disposal Act. Finally, if State employees or State contractors or subcontractors are to be utilized in government response, then the State is required to assure that the program for health and safety protection of response personnel required under subsection 6(a)(1)(P) will be complied with. Nothing in this section is intended to reduce or apportion the liability of an owner or operator of a site under section 4 of the bill. The State share of costs for any one discharge or release incident is to be reduced by the President for any costs of removal or claims for damages payable under section 4(a)(2)(C), (E), and (F) paid by the State or its political subdivisions for that incident between January 1, 1978 and enactment of this bill.

Subsection 6(a)(2)(B)(i) requires the President to identify and publish criteria for determining priorities among releases, discharges, or disposal incidents, or the threat of such, for the purpose of taking remedial actions and, to the extent practicable, for the purpose of taking removal actions. In addition, the President is required to publish, within 90 days, a priority list of releases, threatened releases, or problem disposal facilities or sites, and thereafter to at least annually update the list of priorities. The criteria and the priorities list are to be based on the President's judgment of the relative risk or danger to public health or welfare or the environment.

In updating the initial priority list, the President is to give consideration to any priorities established by the States under subsection 6(a)(2)(C). State priorities for remedial actions are to be established within one year and revised annually thereafter. These State priorities are to be established in accordance with the criteria published by the President and they are to be consistent with the revised National Contingency Plan.

Clause (ii) of subsection 6(a)(2)(B) requires the President to identify and publish a system describing State response actions in accordance with the national priorities list and authorizes the President to contract with the States to perform these response actions and to pay the reasonable costs of such actions. The terms of such contracts will be delineated in the revised National Contingency Plan.

As used in S. 1480, "remove" or "removal action" is that initial response to any release, discharge or disposal (or threat thereof) of hazardous substances which after discovery must be undertaken quickly to protect or prevent actual or potential injury to public health, welfare or the environment. Thus "remove" or "removal" may refer to actual removal by any means including physical, chemical, biological or any other appropriate method, or such other actions as may be necessary to minimize or mitigate damage to the public health, welfare or the environment. Mitigation efforts include, but are not limited to, activities such as spill containment measures; measures required to warn the public of, and protect it from acute danger; temporary evacuation and housing; activities necessary to close an existing public water supply system and provide and monitor the quality of temporary water supplies for humans, livestock, and crops forming part of the human food chain; monitoring for spread of the hazardous substances; biological and other monitoring to determine the extent of contamination; physical measures to identify and contain substances contaminated by a release, discharge or disposal; providing security fencing, navigational cautions or other means of separation; providing efforts to raise sunken vessels or to right or seal transport vehicles which contain the hazardous substance; implementation of emergency treatment facilities; and emergency assistance under the Disaster Relief Act of 1974. In addition, if a transport vehicle has created a substantial threat to the public health or welfare or to the environment as the result of a release or discharge, or such a release or discharge is imminent, of large quantities or extremely hazardous quantities of a hazardous substance, the President may, under the definition of "removal," coordinate and direct all public and private efforts toward removal or elimination of the hazard or threat and summarily remove and, if necessary, destroy, such vehicle by whatever means are available without regard to any provision of law governing the employment of personnel. Mitigation may also include efforts necessary to locate the source of the release, discharge or disposal and identify properties of the substances released. The costs of such measures, efforts and activities are recoverable.

"Remove" or "removal" is distinguished from "remedy" or "remedial action." "Removal" refers to actions which must proceed without delay upon discovery of a release, discharge or disposal or threat thereof. In contrast, remedy or remedial action refers to potentially more costly, long-lasting response which may include the construction of major facilities and which must often be preceded by considerable study, investigation, planning and engineering before the appropriate actions can be determined. Such major construction may well mitigate the danger to public health, welfare or the environment. But they are not the type of action which is intended to be performed as removal, which refers to immediate responses and whose application can be decided upon without significant delay.

"Remedy" involves the more permanent, costly measures which may be necessary after the need for emergency action has terminated. In addition, under section 6(a)(2) of S. 1480 certain responsibilities must first be assumed by a State or other non-Federal entity before the fund may be used for remedial actions; removal may be undertaken without any prior State assurances. While removal is limited in time and money by section 3(c)(2) except where the emergency continues, no dollar or time limit is imposed by statute on remedial actions.

Remedial action may be taken in response to a discharge, release, or a significant threat of discharge release, or disposal of a hazardous substance. Expenditures to prevent a threatened release, discharge, or disposal may be necessary if damages are to be avoided while also providing considerable savings when compared to the costs of removal after a release, discharge or disposal has occurred. In some cases, the President may choose to address a threatened re-

lease which does not pose as immediate a threat of exposure to public health, welfare, or the environment as smaller less serious ongoing releases if in his judgment the consequences of the potential exposure may cause a larger expenditure of monies to achieve cleanup or where the threatened consequences of such exposure may have a severe impact on public health or the environment.

Remedial action means stopping or containing the migration of hazardous substances into the environment in such a manner as to assure that the hazardous substances will not cause danger to present or future public health, welfare of the environment. In some circumstances the continued migration of hazardous substances cannot technically be totally stopped and that such an absolute requirement may not be necessary to avoid danger. In some circumstances, such as in kepone in the James River and Chesapeake Bay, efforts to totally stop the spread or migration of hazardous substances may actually increase the risk of damages rather than prevent them. In such circumsances, the President, in his discretion, may take remedial action to minimize, but not stop, the continued migration of hazardous substances.

In order to ensure that the limited moneys made available under this legislation provide protection from the greatest number of the most serious threats to public health, welfare and the environment, the President must carefully fashion the appropriate remedial action in each instance. This may necessitate the selection of remedial actions that do not provide a permanent remedy. To assist the President in determining the appropriate remedial action, specific criteria are included in the definition of remedy for three of the most costly possible actions—permanent relocation; provision of permanent drinking water supplies; and transport, storage, treatment, destruction or secure disposition of hazardous substances offsite.

The term "remedy" includes the cost of permanently relocating residences, businesses, or community facilities when relocation would be more cost-effective than, an environmentally preferable to, other offsite remedial actions. In addition to these considerations, a decision to provide permanent relocation may be based, at least in part, on findings from epidemiological or other health effects studies which, in the opinion of the President, demonstrate that a) there is a substantial probability that exposure to hazardous substances from the site has caused or contributed or is likely to cause or contribute to adverse health effect; b) even after remedial actions are taken, persons remaining in the vicinity of the site would continue to be exposed to hazardous substances; and c) such exposure has a significant likelihood of causing or contributing to adverse health effects or exacerbating existing conditions.

Provision of permanent alternative drinking water supplies for humans may be provided as remedial action only if the President determines that, as compared with other remedial actions, such provision is more cost effective, considering capital, operating, maintenance and replacement costs.

Typically, it is anticipated that remedial actions will be taken onsite. Evidence presented to the Committee on the costs of onsite versus offsite remedies suggests that offsite measures may be as much

as seven times more expensive and that the somewhat greater protection which may be provided by these more expensive measures does not necessarily justify the huge cost differential or the greatly decreased number of incidents to which the Fund could respond. For these reasons, offsite remedial actions are only authorized if the President determines they cause less environmental impact than onsite actions and they are: (a) more cost-effective, (b) are necessary to protect public health, safety or the environment from the otherwise continued onsite presence of hazardous substances, or (c) they will result in a net increase in the capacity (beyond that necessary to handle the hazardous substances in question) to manage hazardous substances in compliance with permits issued under Subtitle C of the Solid Waste Disposal Act.

Remedial actions include those operation and maintenance costs which the President determines necessary with the passage of time to continue stopping migration or releases of hazardous substances into the environment. Examples of such operation and maintenance costs include repair of clay caps and eroded dikes, operation and maintenance of a treatment system, and maintenance of a reverse hydraulic head in contaminated groundwater. Operation and maintenance costs do not include costs which are unnecessary to the continued effectiveness of measures taken to stop migration of releases of hazardous substances into the environment. Operation and maintenance costs are not to continue to be considered a part of remedial actions paid from the Fund where an owner or operator or other person held liable under section 4 of this Act or ordered by a court or by the Administrator of Environmental Protection Agency under subsection 3(b) or under any other State or Federal law is found responsible for such costs.

Section 3(c)(1) encourages persons responsible under section 4 to respond to releases, discharges and disposal of hazardous substances and authorizes government response unless the President determines that the response of such persons will be done properly. The paramount purpose of this section is the protection of the public health, welfare and the environment. It is recognized that government response will often be necessary prior to receipt of evidence which conclusively establishes the substances or materials released or the origin of their release, discharge or disposal. Because delay will often exacerbate an already serious situation, the bill authorizes the President to respond when a substantial threat of release may exist. This standard is intended to be a flexible one and holds that it is preferable to err on the side of protecting public health, welfare and the environment in administering the response authority of the Fund.

The authority under section 3(c)(1) for government response permits removal, remedy and restoration of natural resources to be paid from the Fund in a number of situations where section 4 is inapplicable. In these instances, recovery of costs should be sought under any other State or Federal law including common law. Examples of such releases or discharges include field application of a pesticide product registered under the Federal Insecticide, Fungicide, and Rodenticide Act and "federally permitted releases" as defined in section 2(b)(18).

Remedial actions for any release, discharge or disposal of hazardous substances for which a department, agency, or instrumentality of the Federal Government has responsibility should be financed through the responsible institution's budget, rather than through the Fund. Government response to releases, discharges or disposal into the environment would be the same as for any other similar non-Federal vessel or onshore or offshore facility.

Existing law is deficient in many areas in providing appropriate response resources and a means of recovery costs. For instance, contamination of harbors and waterways by releases or discharges of in-place hazardous substances is a serious national problem. Although existing law partially addresses this problem, the funds authorized are clearly inadequate to deal with this problem. Moreover, existing law provides no explicit mechanism for recovering expenditures from responsibile parties. This bill allows the President to consider such releases and discharges of hazardous substances from vessels and onshore and offshore facilities when determining priorities under section 6(a)(2)(B).

A special note should be made about the clean-up of PCBs in New York State's Hudson River. During the full Environment and Public Works Committee mark-up of S. 2725, the Clean Water Act Reauthorization, was adopted an amendment which authorized the use of Clean Water Act Section 201 sewage construction grant funds for the clean-up of PCBs in the Hudson. At that time the Committee agreed that funding from S. 1480 would be a more appropriate source of funding for this cleanup effort. The language of the amendment was therefore altered to indicate that the 201 funding was intended to be applicable only until funding was available from S. 1480 or from an appropriation of section 115 of the Clean Water Act. In short, when funds become available under the provisions of this bill for the PCB clean-up, section 201 funding should not be used.

Section 3(c)(2) establishes a clear, unambiguous point beyond which the State must assume its responsibilities as provided in section 6(a)(2)(A) while enabling the Fund to provide removal actions without delay. Under section 3(c)(2), removal actions may continue after obligation of $1,000,000 or 6 months from the initial obligation of Fund monies for removal actions where an emergency continues and assistance would not otherwise be provided on a timely basis.

The requirement that the State first agree to assume its responsibilities as provided in section 6(a)(2)(A) before remedial actions begin serves two purposes. The States are provided the ability to halt further Federal response actions until disagreements over priority and the extent of remedy are agreed upon. In addition, the public is better assured that adequate arrangements have been made to accomplish the remedy and maintain its effectiveness over time.

Remedial actions must be as nearly in accordance with the revised National Contingency Plan as possible. In order to achieve the maximum protection of public health, welfare and the environment with the limited resources of the Fund, the President may have to balance the need for a capital-intensive remedy at one site or facility against the need to respond to other releases, discharges or disposal. These fiscal considerations may necessitate the selection of remedial actions

that do not achieve permanent remedy. Guidelines (such as, for example, cost-effectiveness and phasing of remedial actions) for such decisions may be set forth in the revised National Contingency Plan and may, in addition, be established by rule.

The State or local government commitments required by subsection 6(a)(2)(A) must be adequate for the President to find that they will be fulfilled; however, it is not necessary that all such commitments be fulfilled before remedial actions are begun. If the remedial actions require off-site transportation, storage, destruction, treatment or secure disposition of hazardous substances, the responsibility of the State to assure the availability of a hazardous waste disposal facility need not be met by such a facility within the borders of the State.

Clause (i) of subsection 6(a)(2)(A) requires the State to assume all responsibility for maintenance (including operation) of any removal or remedial actions which continue to require maintenance, using money from the Fund, and pay 10 percent of the costs of such operation and maintenance (or 50 per cent if the site were publicly-owned at time of disposal). The State may comply with this requirement in any of several ways. It may perform the maintenance itself or contract with others to perform the maintenance (using monies from the Fund to pay the appropriate portion of such costs), establish enforceable means for requiring persons liable under section 4 to perform the maintenance, or develop other means acceptable to the President for performing maintenance. It is not intended that the Fund be available to relieve persons liable under section 4 of their responsibilities to provide for such maintenance. The President may suspend and later resume use of the Fund for other than operation and maintenance of remedial actions if he later determines pursuant to section 3(c) that further removal or remedial actions are warranted.

Clauses (iii) and (iv) of subsection 6(a)(2)(A) provide for non-Federal sources to share in the costs of government response. It is not intended that in-kind contributions be used to fulfill these cost-sharing requirements. However, the President is required to reduce the amount to be cost-shared under clause (iii) to the extent that State or local governments can document that they paid direct out-of-pocket costs for removal and claims for damages under subsections 4(a)(2)(C), (E) and (F) for that facility or site between January 1, 1978 and enactment of this bill. Monies obligated or expended which may be eligible for this credit must be amendable to verification by the Administrator before the credit is granted. Such reductions in the cost-sharing requirement are intended to avoid penalizing those States that already have taken action in response to the problems this bill seeks to address. These provisions are also intended to provide an incentive to other States to begin taking necessary remedial actions even before legislation is finally enacted.

Clause (iv) allows the President to recover more than 50 percent of the costs of removal at a facility or site which was owned by a State or local government at the time of any disposal of hazardous substances. Such recovery is to be from the State or from the local government which owned the facility or site. It is not intended that more than 50 percent of the costs of removal be recovered in those instances in which the State or local government ownership results from a non-

discretionary transfer to title such as a lien for unpaid taxes, a required dedication, or a transfer of title as a result of abandonment.

The provisions of section 6(a)(2)(A) are not intended to apply to federally-owned or operated facilities or sites.

Sections 6(a)(2)(B) and (C) establish the State and Federal roles in government response. Beginning twelve months after enactment of the bill, States would have the primary role in determining priorities for remedial action within their boundaries. The President would have the responsibility of setting priorities nationwide. In exercising his responsibility, the President is to consider any priorities established by the States. Since the Fund cannot pay for remedial actions until the State agrees to assume the responsibilities and costs of section 6(a)(2)(A), the national priority system provides the States with reasonable assurance that their priorities will be considered. At the same time, the national priority system assures that the worst national incidents and threats will receive priority for the limited available monies, expertise, and technical capacities of government response.

Section 6(a)(2)(B)(i) requires the President to publish criteria for determining priorities among releases for the purpose of taking remedial action and, to the extent practicable, for the purpose of taking removal action. It is recognized that removal actions must often be taken under emergency conditions, in which time is of the essence. Thus, the President is not expected to delay removal action to consider such criteria unless he determines that such delay will pose no threat to the public health or welfare or the environment.

These criteria serve only an administrative guidance and priority-setting purpose. Notice and comment procedures are therefore inappropriate. Criteria are to be published following consultation with State and local governments and affected private interests. Such consultation is intended to be informal and conducted in a manner which, in the judgment of the President, will not delay compliance with the schedules required by the bill. Affected private interests should be aware of such criteria and provide any information they deem relevant as expeditiously as possible.

Section 6(a)(2)(B)(i) also requires publication within 90 days of a list of priority remedial actions at known disposal facilities or sites or other releases or discharges, or threats thereof.

The priority list is intended to identify disposal sites and releases which, based on information immediately available, may require remedial action. Because of the need to begin remedial actions at some facilities or sites as quickly as possible after enactment, this initial priority list is not subject to the consultation required before identification and publication of criteria for determining priorities among releases or threatened releases.

The President is required to update the national list of priorities for remedial action at least annually. Subsequent revisions of the Presidents' initial priority list, of course, must consider the States' priorities pursuant to section 6(a)(2)(C).

In compiling and revising their list of priorities, it is expected that the States will consider hazardous substances released, discharged or disposed which are reported pursuant to section 3(a)(3) and those

facilities or sites at which hazardous substances are stored or disposed which are reported pursuant to section 3(a)(4). Since the Administrator and the States will also have access to information on active disposal sites under the notification provisions of section 3010 of the Solid Waste Disposal Act, it is expected that in evaluating priorities the States and the Federal government will consider these reports to the extent practical. Thus the reporting provisions of this Act and existing law will serve as a baseline of information for compilation of priority lists. Any gaps in compiling a more complete inventory may be filled by the results of information collection efforts during removal actions and as provided in section 3(c)(3), as well as by any additional information collected by the States. Use of these information sources will provide a sufficient inventory for establishing priorities. Any collection of additional information should not delay compliance with the schedules in section 6(a)(2)(B) or (C), but should be considered in annual revisions of priority lists.

The criteria for determining priorities, and the State and Federal lists of priorities for remedial actions as well, are to be based upon the relative risk or danger to public health, welfare or the environment. Section 6(a)(2)(B)(i) lists factors to be considered to the extent possible.

The priority lists serve primarily informational purposes, identifying for the States and the public those facilities and sites or other releases which appear to warrant remedial actions. Inclusion of a facility or site on the list does not in itself reflect a judgment of the activities of its owner or operator, it does not require those persons to undertake any action, nor does it assign liability to any person. Subsequent government action in the form of remedial actions or enforcement action will be necessary in order to do so, and these actions will be attended by all appropriate procedural safeguards.

Section 6(a)(2)(B)(ii) requires the President to establish a system which enables States affected by a release or discharge of hazardous substances to provide removal and remedial action and be reimbursed for the reasonable costs of these actions from the Fund. To receive reimbursement from the Fund, such State response actions may be undertaken only at facilities or sites which are in accordance with the national priority list established in clause (i). It is intended that where States have the capability to carry out the response actions authorized by this subsection as determined by the President, and where such States agree to carry out these actions consistent with this Act and the revised National Contingency Plan, the President may contract with the States to take the actions. Under clause (ii) the state may assume by contract as much or as little of the responsibility for response as their willingness dictates and, as in the judgment of the President, their capabilities and the circumstances of the facility or site warrant. Any contract between a State and the President shall specify those actions for which the State may be reimbursed from the Fund, require compliance with the National Contingency Plan and this Act in any such State actions, and any other provisions which the President determines are necessary to accomplish the purposes of this Act.

The intent of section 3(c)(1) is to authorize removal with a minimum of delay in order to assure that injury to the public health, welfare and the environment are prevented or minimized and mitigated. This provision is similar to section 311 of the Clean Water Act. Section 511(c) of the Clean Water Act defines section 311 actions of the Administrator as not constituting a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969. Removal actions may be emergency actions within the meaning of the National Environmental Policy Act of 1969.

In some instances, remedial actions are but a continuation of actions necessary to resolve the emergency and such actions can only prevent injury only if they proceed without delay. For example, the construction of dikes around a hazardous waste disposal facility in anticipation of rising waters from melting spring snows, the provision of permanent alternative drinking water supplies to replace water supplies contaminated by released hazardous substances, and the transport, storage, treatment, destruction, or secure disposition offsite of hazardous substances which are explosive, radioactive, or otherwise dangerous if left on-site, are remedial actions which can only prevent harm only if executed without delay. In developing this bill, a number of similar such situations have been reviewed by the Committee. In such circumstances, remedial actions should not be delayed by the imposition of formal EIS requirements.

In other circumstances, removal actions can effectively postpone any emergency and provide for a longer lead time and a planning process before remedial actions must be undertaken. In such circumstances, it is anticipated that a written assessment of proposed alternatives would be prepared along with measures for mitigating adverse environmental effects of the proposed remedial actions and opportunity for public comment and consultation in the decision-making process would be provided. This requirement is not intended to unduly delay action necessary to protect public health, welfare or the environment, nor are formal hearings necessarily required. In some such circumstances, formal Environmental Impact Statement requirements may be determined to be applicable.

In addition to authorizing such studies and investigations as are necessary to determine and direct removal and remedial actions, cost recovery and enforcement of the provisions of the bill, section 3(c)(3) serves several other information gathering functions which are necessary to accomplish the purposes of the bill. The government response, and in most instances, the liability and victim compensation provisions of the bill results from:

(a) release, discharge or disposal or the threat thereof,

(b) of a hazardous substance as defined in section 2(13), or of substances creating an imminent or substantial threat as provided in section 3(c)(1)(B),

(c) from a vessel or an onshore or offshore facility, and

(d) which is or may result in a danger to public health, welfare or the environment.

Section 3(c)(3) is intended to authorize the President to utilize the Fund to identify the existence and extent of these four factors in

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order to determine the need for government response, whether provisions of the Act are applicable, and to alert the public and the government to a potential threat to public health, welfare or the environment so that persons unknowingly exposed may seek appropriate relief. In addition, under section 3(d) the Administrator of EPA or a State acting on behalf of the Administrator, may require any person contributing to activities which may present a danger to public health, welfare or the environment to ascertain the nature and extent of such danger through administrative order or suit in the appropriate U.S. district court.

To implement the site and facility investigation and response authorities contemplated by this bill, the Administrator will frequently utilize contractors as his authorized representatives. The access, entry, and other information-gathering powers granted to the Administrator and his representatives under section 3007(a)(4) of the Solid Waste Disposal Act, section 114 of the Clean Air Act, section 308 of the Clean Water Act, and section 11 of the Toxic Substances Control Act apply to authorized Federal contractors as the Administrator's representatives.

Removal and remedial actions to protect public health, welfare and the environment should begin without delay and prior to full implementation of the programs, regulations, plans and procedures required by this Act. The many pressing problems which have led to enactment of legislation should not continue unabated pending such administrative actions. Therefore, actions necessary to protect public health, welfare or the environment should begin as soon as feasible. The non-regulatory authorities for response provided in this Act and other laws should be exercised prior to completion of any necessary planning, administrative and rulemaking responsibilities. However, once completed, such statutorily required planning, administration and final rulemaking shall govern subsequent government response actions.

Section 3(e) provides broad authority to assure that government response is not delayed due to existing contracting methods. This section allows the use of alternative contracting procedures in those circumstances in which the existing Federal procurement procedures may cause delay in government response to an environmental emergency.

Existing Federal procurement procedures should be utilized to the greatest extent practicable in order to preserve the competitive bidding process. Unacceptable delays in this process, however, should not be allowed to postpone or in any way hamper response action to emergencies. To avoid such problems, this section is intended to allow the President to establish procedures that will assure rapid response to effect cies. To avoid such problems, this section is intended to allow procedures that will assure rapid response to effect the purposes of this Act.

Section 3(b) authorizes the Administrator to establish and enforce requirements for particular facilities or sites for removal, remedy and other control measures which the Administrator deems appropriate to protect the public health and welfare or the environment. Such requirements are to be enforced under existing provisions of the Solid Waste Disposal Act or the Clean Water Act, and may be issued in the

form of regulations or as an administrative order directed to the owner or operator of any site or facility or to any other person held liable under this bill with respect to such site or facility. Such requirements may apply to any site and facility at which hazardous substances have been stored, treated or disposed of, except a facility in compliance with a permit or accorded interim status under subtitle C of the Solid Waste Disposal Act.

This provision is intended to decrease reliance on the Fund and on Federal response where responsible parties can take necessary control, removal, or remedial actions. This will permit expanded and more efficient use of money in the Fund. For instance, situations will arise where the President has responded to a release, discharge or disposal, and conducted certain removal or remedial activities. The incident or contamination may have been mitigated considerably but may still require additional work to adequately protect public health or the environment. This provision permits the President to require private parties to assume the necessary removal or remedial action. Similarly, the President may learn of the disposal, discharge, or release of hazardous substances or the threat thereof, which require removal or remedial actions, but for which, due to the higher national priority accorded other incidents or other factors, the President determines the Fund should not be utilized for government response. In such circumstances the President may require responsible parties to take any action which, in the judgment of the President, is necessary to protect public health, welfare, or the environment.

Judicial review of any regulation pursuant to section 3(b) would be as provided in section 9(a). An Administrative order pursuant to section 3(b) may be enforced by commencing an action in the appropriate Federal district or State court.

It is important to have those present on the scene or nearby a release, discharge or disposal, who often have the greatest technical capacity to deal with the problems caused by hazardous substances, participate in cleanup efforts. Subsection 4(h) provides that where qualified individuals or organizations are participating in cleaning up hazardous substances in a manner recognized by the National Contingency Plan as appropriate, or taking action at the direction of the on-scene coordinator, such individuals or organizations will not be liable for damages as a result of such actions, except for gross negligence or intentional misconduct. The Chemical Manufacturers Association has organized CHEMTREC, a system for providing clean up advice to transporters of hazardous substances and others who may be on the scene of a release, discharge or disposal incident and in a position to respond. In addition, many chemical companies and other industries have teams of trained and equipped personnel that could respond to nearby releases by other parties. The President is expected to make suitable arrangements with the operators of CHEMTREC and other private emergency response systems for their inclusion in the revision of the National Contingency plan contemplated by subsection 3(c)(5), but only to the extent that such inclusion furthers the objectives of that plan and this Act. This should also apply to qualified response teams of individual companies.

Use of Fund

Section 6(a)(1) describes those purposes for which the Hazardous Substances Response Fund may be used. Monies from the Fund may be used to pay (i) claimants for third party damages and costs of removal due to the discharge or release of hazardous substances from a vessel or a facility; (ii) for actions taken by the President under the authority of section 3(c); and (iii) the President or his designees for other costs of implementing this Act as provided for in section 6. Of course, use of the Fund for government costs in items (ii) and (iii) are subject to appropriation Acts and are not subject to the procedures for claimants seeking third party damages and costs of removal, since this would preclude the government from providing timely response as intended by this Act. These government costs are identified in section 5(h)(1).

The third party damages which may be compensated from the Fund are fewer and of narrower scope than the damages for which a person may be liable under section 4. Section (6)(a)(1) makes the Fund available to victims for rapid relief for acute personal damages to health and income and capital losses to food producers and processors. In addition, this subsection makes the Fund available to assist victims in bearing certain burdens of proof in tort actions to recover the more extensive and long term damages for which a cause of action in Federal courts is established under strict, joint and several liability in section 4. Thus the Fund assists in relieving the acute suffering of victims, but it would not make them economically whole. Recovery by victims of the more extensive, long-term damages is intended to be made possible under section 4 through the courts.

Any person may present a claim to the Fund under this Act for compensation for damages or removal costs resulting from a discharge, release or disposal of a hazardous substance where the source of the discharge or release, or a person liable for such costs of removal or damages is not known, cannot be identified, or where the claim has been submitted to the source or any other person liable under section 4 and has not been satisfied.

Section 6(b)(3)(I) requires claims for damages to be presented to the Fund within three years from the date of the discovery of the loss or the date of enactment of the Act, whichever is later. Further limitations on claims which may be presented to the Fund and receive compensation for releases or discharges prior to enactment of the Act are set forth in section 4(n) and are described in this report in the section entitled "Liability". In addition, payment of some third party damages from the Fund are limited by the period of time for which damages may be computed and the earliest date from which such damages may be computed; these provisions, which are specific to certain third party damages, are described in this section of the report.

Claimants are eligible to seek compensation from the Fund for damages or for the costs of removal due to a "release," "discharge" or "disposal" of a "hazardous substance" from a "vessel" or "facility" as defined in section 2. Section 6 restricts such compensation in two instances. Section 6(d) prohibits use of the Fund to pay for any claim to the extent that the discharge or release involved, or the dam-

ages incurred as a result thereof, was caused by the gross negligence or willfull misconduct of the claimant. Section 6(a)(4) prohibits payment of claims for damages, but not for removal costs or injury, destruction or loss of natural resources, resulting from the normal field application of a pesticide product registered under the Federal Insecticide, Fungicide, and Rodenticide Act. The only exception to the prohibition of section 6(a)(4) is for loss of income or capital sustained by food producers or processors under section 6(a)(1)(N) and (O). In addition, section 8(b) precludes payments to claimants for removal costs or damages if they have received compensation for the same removal costs or damages under any other Federal or State law.

Section 6(a)(1) authorizes use of the fund for the following purposes:

(1) The costs of removal as well as damages resulting from (i) any injury, destruction or loss of natural resources, including reasonable damage assessment costs; (ii) loss of income or profits or impairment of earning capacity due to personal injury or injury or destruction of real or personal property or natural resources; and (iii) all out-of-pocket medical expenses, including rehabilitation costs or burial expenses due to personal injury, where a person liable is not known, cannot be identified, or where a person liable has been presented a claim and has not satisfied it.

(2) All costs of removal and other costs of carrying out the National Contingency Plan, as amended, including removal costs incurred and approved under the plan.

(3) The costs of establishing and maintaining Federal strike forces, emergency task forces or other response teams under the National Contingency Plan, including the costs of equipment, similar overhead, and damage assessment capabilities.

(4) The costs of assessing injury, destruction or loss of natural resources.

(5) The costs of Federal or State restoration, rehabilitation or replacement of injured, destroyed or lost natural resources.

(6) Reimbursement of States who use monies they collected or appropriated to pay claims for costs of removal or damages under section 4(a)(2)(C), (E) and (F), providing such payments are pursuant to the National Contingency Plan and a contract under section 6(b).

(7) The costs of a program to identify, investigate and take abatement action under this Act.

(8) The costs of research related to the natural resource protection purposes of this Act and section 311 of the Clean Water Act, up to a maximum of $10,000,000 per fiscal year.

(9) The costs of research to develop methods and technology for removal and remedial actions, including portable onsite technology.

(10) The administrative and personnel costs of administering the fund and this Act.

(11) The costs of epidemiologic studies, a victim registry for long term health effect studies, and diagnostic services not otherwise available to determine the presence of long-latent diseases in exposed populations.

(12) The reasonable costs of expert witnesses to assist victims and the fund in recovering damages.

(13) Payment for loss of income or capital loss due to destruction, loss, condemnation, or restriction on use of fish, seafood or agricultural products and resources when sustained by agricultural producers or processors or commercial fishermen or fish or seafood processors.

(14) The costs of a program to protect the health and safety of response personnel.

Paragraphs (A) and (B) of section 6(a)(1) provide for the costs of removal and for damages resulting from (i) any injury, destruction or loss of natural resources, including reasonable damage assessment costs; (ii) loss of income or profits or impairment of earning capacity due to personal injury or injury or destruction of real or personal property or natural resources, regardless of ownership of the property or resources; and (iii) all out-of-pocket medical expenses, including rehabilitation costs or burial expenses due to personal injury, where a person liable is not known, cannot be identified, or where a person liable has been presented a claim and has not satisfied it.

Loss of income or profits or impairment of earning capacity refers to direct, calcuable losses. Personal income derived from business in lieu of wages for a claimant who is an owner (as sole proprietor, partner or otherwise) of a firm refers to the amount of average wages regularly received during the twelve months preceding the loss: If the claimant does not regularly receive wages for his or her services, then the claimant's average share of the net profits (after all income taxes and business expenses exclusive of dividends) for the twelve month period provides the basis for determining the loss.

Section 6(a)(3)(B) limits payment of claims for lost wages or other personal income to 100 percent of the actual net amount lost in the first year after commencement of the loss and 80 percent of the actual amount lost in the second year. These limits do not apply to losses provided in section 6(a)(1)(N) or (O). Where the claim is filed after commencement of the loss but before the full first 2 years of the loss and the President determines that the loss will continue for all or a portion of the two years, payment shall be based on the wages or other personal income received in the 12 month period prior to commencement of the loss.

With respect to claims for out-of-pocket medical costs, except for diagnostic services, section 6(b)(3)(G) requires that the claimant incurred or will incur medical expenses of at least $300 before payment may be made. However, if this threshold is met, the claimant is entitled to reimbursement for the total amount certified, including the first $300. The term "out-of-pocket medical expenses" includes the direct costs of diagnostic, medical, surgical, hospital nursing care, ambulance, and other related services, and drugs, medicines, necessary restorative and rehabilitative programs, and burial expenses.

Section 6(a)(3)(A) provides that the Fund can compensate victims for out-of-pocket medical expenses incurred during the period from initial exposure to a hazardous substance through the sixth year following discovery of such exposure. For the purposes of paragraph (A), and with respect to the statute of limitations under section 6(b)(3)(I), a claimant shall be deemed to have discovered or have knowl-

edge of his injury or disease when (i) through medical diagnosis or a comparable statement of a public health official, such claimant is informed of the nature and seriousness of such injury or disease, and (ii) through community recognition, statement of a public health or environmental protection official or similar means, such claimant becomes aware of a likely or alleged relationship between such injury or disease and the release of a hazardous substance.

Section 6(a)(3)(A) should be read in conjunction with section 4(n) for out-of-pocket medical expenses occurring before the date of enactment of the bill. It should be noted that section 6(b)(3)(I) deals with how long after discovery or after enactment a claim can be presented to the Fund while section 4(n) deals with which claimant's medical expenses may be compensable if they occurred before enactment and section 6(a)(3)(A) concerns the time period to be used in computing payment of any medical expenses.

The Committee rejected a time period of six years from initial exposure in section 6(a)(3)(A) because a victim's initial exposure may well have occurred years or even decades before the exposure grew serious enough to be dangerous. Thus, starting the compensation period at the time of initial exposure could exclude many victims from any coverage at all. This should be distinguished from the problem posed by diseases with long term latencies that take many years to manifest themselves. Rather, the Committee was concerned in this section with exposure that is minor at first, but gradually builds to a level at which it inflicts direct harm to health. An example would be a site that develops a small leak that worsens over a period of years to the point where its releases threaten local residents. Instead, section 6(a)(3)(A) uses date of discovery of initial exposure to start the six year compensation period because it is presumably closer to the time when exposure reaches a serious level. Because the occurrence of serious health problems will tend to lead rapidly to discovery of exposure, it is less likely that heavy medical expenses will be incurred during the period between initial exposure and discovery of exposure. Any such expenses should be covered by the Fund, but it is equally if not more important to cover the expenses that occur after exposure is discovered. However, it was also decided that payment from the Fund should not be available for lifetime treatment, rather the Fund covers only the first six years' medical expenses after discovery of exposure. This coverage of medical expenses provides relief during the period when litigation for damages for longer time periods may be underway.

Subparagraph C of section 6(a)(1) makes the Fund available for costs of removal and other costs of implementing the National Contingency Plan as developed under this Act and section 311(c) of the Clean Water Act. Under this section, United States government agencies and States may use the Fund for costs of removal if such costs have been incurred as a result of and approved under the National Contingency Plan. States may be reimbursed for the reasonable costs incurred for removal and remedial actions at facilities or sites accorded national priority when such actions are pursuant to a contract as provided in clause (ii) of section 6(a)(2)(B). Provision for such reimbursement of States is discussed in the "Government Response" section of this report. Payments from the Fund under section 6(a)(1)(C) are to be made pursuant to section 3(c), in the same manner as has been used in implementing section 311 of the Clean Water Act.

Subparagraph (G) of subsection 6(a)(1) authorizes reimbursement of a State for payment of claims for costs of removal or damages under section 4(a)(2)(C), (E) or (F) which the State has paid from monies under its control and which it collected or appropriated. Such reimbursement is limited to paid claims if such claims are provided for in the National Contingency Plan and in a contract under subsection 6(b)(1) between the President and the State. Any such contract shall as a condition of reimbursement require State compliance with the National Contingency Plan and any claims procedures established pursuant to section 6(b)(3), at a minimum. Any such contract shall include a provision precluding the State from realizing a double recovery of any amount paid in a claim.

Subparagraph J of section 6(a)(1) provides for research to develop, and integrate as part of government response, mobile or portable onsite technology capable of treating, neutralizing, destroying or otherwise rendering hazardous substances harmless. Other research objectives are to develop methods and technology capable of stopping the spread of hazardous substances into and through groundwater, the air or onto the land and through the food chain. The development and demonstration of such new technologies and methods are essential to reduce the unit costs of and improve the effectiveness of government response actions and thereby make it possible to use the limited monies in the fund to remedy more incidents. Without such an effort, the need for even larger sums of money can be anticipated. The results of these research efforts should be considered in preparing the report to Congress required by section 5(j).

Subparagraph (L) of section 6(a)(1) authorizes the President to use the monies in the fund for epidemiological studies, and development and maintenance of a registry of persons exposed to hazardous substances when the President determines such a registry is necessary to determination of probable long-term health effects in a population which may be at high-risk. In addition, this subparagraph enables the President to use the Fund to provide diagnostic services to special populations who have been exposed to hazardous substances and may be suffering from long-latent illness or disease as a result of such exposure, but are unable to make such a determination because of the costs or limited availability of such diagnostic services.

The personnel, contractor support, laboratory capacity, and the expertise necessary for many of the services authorized by this paragraph are in limited supply. The pressures for such services will exceed the supply for some time to come. Therefore, the President is to be accorded broad discretion in allocating these limited resources so that the greatest protection of public health and welfare can be realized. However, it was also recognized that the ability of this Act to deter risk is substantially assisted by a population informed that it is being harmed and aware of its rights to recover damages. Therefore, it is not intended that use of the authorities provided by this subparagraph be limited to serving only government response actions.

Neither is it intended that such studies, services or registries become prerequisites before government response actions may be undertaken.

Subparagraph (M) of section 6(a)(1) authorizes claims for the costs of expert witnesses employed by claimants in actions to recover damages under section 4, to the extent authorized by the court. In addition, subparagraph (M) enables payment for the costs of neutral expert panels if established by the court, on its own motion, or on the motion of any party. It is the intent of this section to provide claimants and the court access to witnesses and experts to which they otherwise may not have access in litigation. The costs of such experts, the complexity and difficulty of the causation burden which victim's must bear in litigation involving damages resulting from exposure to hazardous substances, the protracted proceedings and attendant costs, and the generally superior resources and expertise frequently available to large companies who may be defendants, make desirable provision of reasonable economic assistance to plaintiffs who may otherwise be denied an opportunity to present their case. In implementing this subparagraph, the President may receive and decide upon claims or contract with others to administer a fixed amount of money so as to best achieve the purposes of this subparagraph.

Fund and Fee Structure

Section 5 establishes a $4.085 billion Hazardous Substance Response Fund in the U.S. Treasury and the means by which the fund will be financed. The fund is administered by the President and the Secretary of the Treasury.

The fund is financed by industry fees, appropriations, recovered moneys, transfer of Clean Water Act section 311 and 504 funds, and interest from investing any monies not required to meet potential immediate obligations of the fund. The fees may not exceed $250 million in fiscal year 1981, $525 million in fiscal year 1982, and $700 million in fiscal years 1983 through 1986. Appropriations in each of the corresponding years are limited to $35 million, $75 million and $100 million.

The fees are derived from levies on 11 primary petrochemicals, 34 inorganic raw materials and petroleum oil as defined in section 2. The fees are levied on each pound of the primary petrochemicals and each short ton of inorganic raw materials which a supplier (producer, manufacturer, importer, or exporter of primary petrochemicals or inorganic raw materials) provides to other or uses himself to make more complex intermediate products, final products, or wastes. The fees on petroleum oil are levied on a per-barrel basis on refinery owners and owners of petroleum oil for export or import. The fees may be levied only once on the same quantity of petroleum oil, primary petrochemical or inorganic raw material, except that refined petroleum used as a feedstock to a primary petrochemical is also subject to the fee as a primary petrochemical.

The terms "primary petrochemical" and "inorganic raw material" are each defined to mean only the specially listed substances in subsection 5(1).

A "refinery" is defined as a permanent facility in the U.S. which refines petroleum oil. The term "petroleum oil" as used in subsection 5 means petroleum, including crude petroleum and any of its fractions or residues other than carbon black.

The term "supplier" means a producer, manufacturer, or generator (including an exporter), or an importer of primary petrochemicals or inorganic raw materials. A supplier either provides primary petrochemicals or inorganic raw materials to others through sale or other transfer for use by others, or himself uses those produced, manufactured, generated, imported, or exported substances subject to the fee.

The initial fees for each of 46 substances are specified in subsection (d)(4). The fees in subsection (d)(4) apply in the first year and continue until modified. After the initial levying of fees, the Secretary of the Treasury, in consultation with the Administrator of the Environmental Protection Agency, may annually establish a schedule of fee rates by rule. The schedule of fee rates may not result in fees which exceed 2 percent of the list price of the primary petrochemical, inorganic raw material or petroleum oil. The fee rates may not exceed $20 per short ton for a primary petrochemical, $10 per short ton of inorganic raw material or 3 cents per barrel of petroleum oil. In addition, the total fee revenues per fiscal year may not exceed the following limits:

[In millions of dollars; fiscal years]

	1981	1982	1983 and each year through 1986
All primary petrochemicals	162	338	450
All inorganic raw materials	50	112	150
All petroleum oil	38	75	100

Within the above limits of fee rates per unit of production, percent of list price, and total revenues per year, subsection (e) describes how the equity of the fees may be improved so that they reflect, to the extent practical, the past and anticipated expenditures of the Fund. The equity adjusments may be made biannually, with the first such adjustment affecting the fourth year's fees. The adjustments are to reflect the incidence (frequency) with which the primary petrochemicals, inorganic raw materials and petroleum oil (or their intermediates, final products and wastes) are encountered in releases requiring payments from the Fund. Three kinds of adjustment in fees are provided for: (i) the distribution of the relative total fees paid by each of the three classes (petrochemicals, inorganics and petroleum oil); (ii) the fee rate for each of the 46 substances subject to a fee; and (iii) the industrial categories which are paying the fee.

Based upon the criteria of subsection (e), fees during the first three years on ammonia, phosphoric acid, nitric acid and sulfuric acid are set at zero when these substances are supplied to the fertilizer production industry. Similarly, fees during the first three years are imposed upon copper sulfate, cupric oxide and cuprous oxide rather than all copper. Thereafter, adjustments in fee rates for the fertilizer production industry and for copper or its intermediate compounds, would be determined by the Fund's payout experience as provided in subsection (e).

To assure equity and encourage recycling and reuse, primary petrochemicals or inorganic raw materials are not subject to a fee to the extent they are used as a source of fuel, produced solely as a byproduct of pollution control and used commercially, reintroduced into the production of other substances subject to the fee (e.g. benzene used to lighten heavy crude oil), derived from recycled material, or removed from wastes and recycled into a production process.

The industry fees are assessed and collected by the Secretary of the Treasury, acting under his existing authorities. The President annually determines the level of income sufficient to immediately meet potential obligations of the Fund, but in no event may such amounts cause the limits established in subsections (b) and (d) to be exceeded. Any excess in the Fund may be invested and the earned interest credited to the Fund. In addition any excess may be used to purchase reinsurance if such reinsurance increases the ability of the Fund to meet its potential obligations. To the extent necessary to meet potential obligations as determined by the President, the balance in the Fund (including monies collected, transfered, recovered and loaned) may exceed the sum of the amounts derived from industry fees and from appropriations. Monies credited to the Fund in any fiscal year remain available until expended.

In any fiscal year, two-thirds of the moneys from industry fees and from appropriations credited to the fund in that year may be used for government costs of locating releases of hazardous substances, assessing their potential harm, costs of removal, assessment of natural resources damage, restoration of natural resources, and associated administrative and personnel expenses, including expenses of recovery of such costs. The remainder of fees and appropriations is available for third-party damages and other expenses authorized in section 6.

If in any fiscal year the balance in the fund is insufficient to meet obligations, the Treasury may lend money to the fund in amounts not to exceed the total of fees and appropriations authorized in subsection (b) for the next fiscal year. Such loans are to be used for third-party damage claims and for (1) removal costs as necessary during the first two years, and (2) costs of removal for unanticipated catastrophic releases. Treasury loans are to be repaid from future fee revenues.

Within four years after the fee is initiated, the Administrator is to submit a report to Congress on the adequacy of the size of the fund and its authorized life and on the need for any statutory changes in the fee system.

The Hazardous Substance Response Fund created in section 5 is to pay for Government response to releases or potential releases of hazardous substances and third party claims attributable to such releases. The evidence before the Committee clearly illustrates that the demand for moneys for Government response far exceed the amounts authorized in this bill. The moneys needed for third party damages are extremely difficult to project from the available information, and therefore the amounts provided have been similarly defined. Thus the $4.085 billion six year fund derived from fees and appropriations is less reflective of demand than it is of a balance

managed and used in the time period allotted and that amount which economic analyses show to not stress the well-being of affected industries. Fees and appropriations equal to the full authorization limits will be necessary to produce adequate money to accomplish the purposes of the legislation.

The fund will be built up over three years with fees and appropriations providing up to $285 million the first year, $600 million the second year, and $800 million the third year and each year thereafter through the sixth year. Authority to collect further fees and appropriations expires after the sixth year. Authority to pay claims does not lapse until there is no longer a balance in the fund. Since a report on the fund and fee system is required within four years, the Congress will have an opportunity based upon experience to determine the need for adjustments in the fund and fee provisions.

Financing the Fund primarily from fees paid by industry is the most equitable and rational method of broadly spreading the costs of past, present and future releases of hazardous substances among all those industrial sectors and consumers who benefit from such substances. The concept of a fund financed largely by appropriations was not adopted. A largely appropriated fund establishes a precedent adverse to the public interest—it tells polluters that the longer it takes for problems to appear, the less responsible they are for paying the consequences of their actions, regardless of the severity of the impacts. Too often the general taxpayer is asked to pick up the bill for problems he did not create; when costs can be more appropriately allocated to specific economic sectors and consumers, such costs should not be added to the public debt.

The fee system was adopted after extensive investigation of alternatives. This fee system provides the best balance of equity, rapid implementation, legal defensibility, administrative simplicity, and a minimum of any adverse economic and environmental impacts. The fees are imposed at the beginning of the commercial chain of production, distribution, consumption, and disposal of hazardous substances. The fee is assessed on substances which are either hazardous themselves or are the basic building blocks (primary petrochemicals, inorganic raw materials and petroleum oil) used to make almost all major hazardous substances.

By collecting a fee at the beginning of the production cycle, this fee system uses the efficiency of the marketplace to automatically and broadly distribute the risks associated with chemicals through fees on all industrial sectors in the chain of production, transportation, use and disposal of hazardous substances. This is a more effective mechanism than distributing risks through the rules and regulations of a Federal agency and it is fully consistent with the spirit of regulatory reform.

The 46 substances subject to the fee meet at least two or more of the following criteria: (i) they are inherently hazardous or hazardous in a number of forms (intermediates or final products), (ii) they are hazardous in some form if released, (iii) hazardous wastes are generated in producing them or their intermediate or final products, (iv) they are capable in one or more forms of increasing the hazardous po-

tential of other substances; and (v) they are produced in significant quantities. A fee may attach to a product even though it is itself environmentally benign, since earlier in the chain of production, distribution, consumption and disposal it used a hazardous substance or later in the chain it will be used to generate a hazardous substance.

Because of the urgent need to expand government response to the hazards which have necessitated this bill, the fees begin to be collected 180 days after enactment. To avoid the necessity of establishing fee rates by rule, the bill provides the initial fee rates for each substance needed to raise $250 million annually in subsection (d)(4). It is intended that the fee rates necessary to raise $525 million be computed in the same manner. Therefore, the fees in the second and third years should be as shown in Table I unless the President determines that: (i) fees totalling $525 million the second year or $700 million the third year are not needed; (ii) production amounts of the 46 substances are significantly different than used for Table I; or (iii) the statutory limits specified in subsections (c) and (d) would be exceeded.

Beginning with the fees in the fourth year, subjection (e) provides authority for biannual refinement in equity by adjusting the amount of fees so that they reflect, to the extent practical, the past and anticipated expenditures of the Fund. Fee adjustments may be made by the Secretary of the Treasury by rule, after consultation with the Administrator of EPA.

Subsection (e) is not intended to burden adjustment of the fee with costly accounting or result in any delay in government response, claims processing or fee adjustments. Nothing in subsection (e) is intended to require additional sampling or laboratory analysis to ascertain the specific identity or amount of released hazardous substances or to allocate the costs attributable to each substance or industrial category beyond that which would otherwise be necessary for government response, claims processing, cost recovery or enforcement purposes.

Paragraph (e)(1)(A) provides that the percentage of annual fees collected from petroleum oil, all primary petrochemicals as a class and all inorganic raw materials as a class be approximately proportional to the frequency with which substances in each of these three classes (or that of their intermediates, final products and wastes produced from substances subject to the fee) are detected in releases requiring payments from the fund. In the first three years, the percentage contributions are assumed to be 15 percent from crude oil, 65 percent from primary petrochemicals and 20 percent from inorganic raw materials. This initial distribution of fees among the three classes reflects the generation of hazardous wastes which are expected to be the largest category of expenditures in at least the first three years. Wastes representing 92 percent of annual hazardous waste generation were, after correction for weight bias, characterized as approximately 3 to 1 organic (petrochemicals) to inorganic. The 15 percent from petroleum oil reflects waste generated by the petroleum refinery industry and the high incidence of waste oils found at hazardous waste disposal sites.

TABLE I.—FEES 1ST 3 YR

[Dollars per short ton, fiscal years]

	1981	1982	1983
Primary petrochemicals:[1]			
Acetylene	$3.88	$8.66	$11.95
Benzene	3.88	8.66	11.95
Butane	3.88	8.66	10.24
Butylene[2]	3.88	7.80	7.80
Butadiene	3.88	8.66	11.95
Ethylene	3.88	8.66	11.95
Methane[3]	3.44	3.44	3.44
Napthalene	3.88	8.66	9.04
Propylene	3.88	8.66	10.92
Toulene[4]	3.88	8.66	11.95
Xylene[5]	3.88	8.66	11.95
Inorganic raw materials:[1]			
Antimony	2.66	10.00	10.00
Antimony trioxide	2.24	10.00	10.00
Antimony sulfide	1.94	10.00	10.00
Arsenic	2.66	10.00	10.00
Arsenic trioxide	2.04	9.70	9.70
Barium sulfide	2.18	2.30	2.30
Bromine	2.66	10.00	10.00
Cadmium	2.66	10.00	10.00
Chlorine	2.66	2.70	2.70
Chromium	2.66	10.00	10.00
Chromite	1.12	1.12	1.12
Potassium dichromate	1.02	10.00	10.00
Sodium dichromate	1.12	10.00	10.00
Cobalt	2.66	10.00	10.00
Copper sulfate	1.13	10.00	10.00
Cuprous oxide	2.37	10.00	10.00
Cupric oxide	2.14	10.00	10.00
Hydrochloric acid	.18	1.05	2.50
Hydrogen fluoride	2.53	10.00	10.00
Lead	2.66	10.00	10.00
Lead oxide	2.48	10.00	10.00
Mercury	2.66	10.00	10.00
Nickel	2.66	10.00	10.00
Nitric acid[6]	.15	.72	3.24
Phosphorus	2.66	10.00	10.00
Phosphoric acid[6]	.19	1.14	8.00
Potassium hydroxide	.11	.27	.58
Sodium hydroxide	.11	.27	.58
Sulfuric acid[6]	.16	.85	1.00
Stannous chloride	1.71	10.00	10.00
Stannic chloride	1.27	10.00	10.00
Zinc	2.66	10.00	10.00
Zinc oxide	2.15	10.00	10.00
Ammonia[7]	.11	.27	.58
Petroleum oil[1] (cents)	.756	1.59	1.99

[1] Fee on primary petrochemicals and inorganic raw materials expressed in terms of dollars per short ton. Fee on petroleum oil expressed in terms of cents per barrel.
[2] Excluding that portion ued to make butadiene.
[3] Excluding that portion used to make ammonia and acctylene.
[4] Excluding that portion used to make benzene.
[5] Excluding meth-xylene.
[6] Excluding that portion used to make fertiliers.
[7] Excluding that portion used to make fertilizers and all nitric acid.

Paragraph (e)(1)(A) does not require determination of the amount or the specific identity of the released substances; it requires determining only whether the release involves oil, another organic substance and/or an inorganic substance. Where the release involves substances in more than one of these three classes, each would be credited on equal share of the total value of payments for that release, unless information otherwise available permitted a more accurate allocation of costs among the three classes. In determining any reapportionment of fee burdens among the three classes, the Secretary of the Treasury may also consider projected expenditures.

Paragraph (e)(1)(B) provides for modification of fee rates—the fee per unit of petroleum oil, each primary petrochemical, and each

inorganic raw material. Paragraph (e)(1)(B) authorizes modification of the fee rates so that rates are approximately proportional to the frequency (not the total amount of the substance) with which the substance subject to the fee (or that of its intermediates, final products and wastes) is detected in releases requiring Fund expenditures. In determining any modification of fee rates the Secretary of the Treasury may also consider available information on projected expenditures from the Fund. Where a release involves more than one substance subject to the fee, each would be credited an equal share of the payments for that release, unless available information made it practicable to allocate the costs among substances to the fee.

Paragraph (e)(2)(A) provides that if in the first three years of expenditures, the Fund does not incur costs for a substance (or its intermediates, final products or wastes) then the fee rate for that substance will be established at the lowest rate applicable to any substance in the next fee year and continue until modified by paragraphs (e)(2)(B) and/or (C).

Paragraph (e)(2)(B) authorizes the fee to be established at zero if by the second biannual fee adjustment a substance (its intermediates, final products and wastes) has not been identified in any releases requiring Fund expenditures. If the Secretary of the Treasury subsequently determines that new expenditures from the Fund for that substance are sufficient to necessitate a contribution to the Fund, then a fee may be reimposed by rule and become effective the next annual fee collection period.

Paragraph (e)(2)(C) authorizes the Secretary of the Treasury, in consultation with the Administrator of EPA, to distinguish between industrial categories when applying paragraph (2)(B). That is, the fee on a substance may be set at zero for one or a few industrial categories if the Administrator advises the Secretary that routinely collected information supports the conclusion that the releases are solely attributable to other industrial categories. The authority to vary the fee for the same substance by industrial category is discretionary. It is intended that this paragraph be used at the discretion of the Secretary to rectify gross inequities which may become evident as the Fund gains experience; for example, those exceptions where substantial expenditures are attributed to a substance but releases of the substance are not caused or contributed to by one of the several industrial categories who generate or use it.

The Secretary may distinguish between industrial categories in several ways. He may: (a) designate certain industrial categories as subject to a fee of zero, or (b) designate certain intermediates or final products as subject to a fee of zero, or (c) designate the primary petrochemical, inorganic raw material or petroleum oil subject to a fee of zero and impose the fee only on specified intermediates or final products made from that primary petrochemical, inorganic raw material or petroleum oil.

While the Secretary has discretion in determining where it may be appropriate to consider differentiating the fee by industrial category, the Secretary is required to modify the fee for a particular industrial category where it is determined that the three statutory criteria in paragraph (2)(C) are met.

The first criterion in paragraph (2)(C) requires that the industrial category not have contributed significantly to Fund expenditures by releases from its own activities or those who supply the substance, its intermediates or final products to the industrial category.

The second criterion in paragraph (2)(C) requires that the substance, its intermediates, final products or wastes as commonly used or generated by the industrial category, not have been present significantly in releases from hazardous waste storage or disposal facilities. The second criterion insures that the historic lack of information on who placed what wastes at hazardous waste storage and disposal facilities not preclude payment of a fee if there is reason to believe, but not conclusive proof, that the industrial category may have been the source of the released hazardous substances. This criterion is intended to protect against shifts in the fee burden to other industrial categories if there is reasonable evidence to conclude that a particular industrial category may have cause or contributed to releases of unknown origin.

The third criterion in paragraph (2)(C) is intended to insure that if an industrial category is made subject to a fee of zero, this action will not prevent other industrial categories who pay a fee on that substance from passing the fee on through the chain of commerce to ultimate consumers. Without such a test, paragraph (2)(C) could increase inequity in the fee system by requiring some industries to absorb the fee rather than distribute it to consumers of the substance.

Because court challenges to the regulations establishing or modifying fees could be lengthy, any interference with the imposition of fees while a challenge was pending could have a serious impact on the ability to keep the Fund sufficiently financed. Therefore, paragraph (e)(2)(B) provides that any stay of regulations relating to the fees is prohibited until completion of judicial review.

Based upon testimony and information supplied by the fertilizer production industry during development of the Act and after consideration of the criteria in subsection (e)(2), the fertilizer production industry is conclusively presumed in subsection (e)(3) to not impose significant costs upon the Fund prior to the first adjustment period for the fee.

A salient portion of the industry's testimony is the statement by Edwin Wheeler, president of the Fertilizer Institute, that:

> "* * * the fertilizer industry has not been a contributor to the problem of abandoned and inactive waste disposal sites, and is not a significant contributor to the hazardous substances spill problem * * *"

The Committee notes that certain acids, which are used as feedstocks in the manufacture of some fertilizer products, are also used for processes in other industries. As spent process chemicals, these acids are upon occasion discovered in dumpsites, where they can pose serious problems. In setting levels of fees, the Committee therefore chose to retain fees on those portions of acid production which find their way into processes in these other industries. In addition, it was decided that the first three years' experience of the Fund would be the most appropriate basis for judging whether fertilizer chemicals or feedstocks used in fertilizer production significantly contribute to spill problems or other releases needing government response. A fee rate of zero is as-

signed to ammonia, phosphoric acid, nitric acid and sulfuric acid supplied to, generated by and used or disposed of by the fertilizer production industry in the first three years after the fee system is first initiated. Nonfertilizer production usage of these substances are not exempt from fees. The term "fertilizer production industry" as used in the bill is to read to include those activities and products described and set forth in the Standard Industrial Classification Manual (OMB, 1972 Edition) and identified therein as SIC Code Nos.: 1474, 1475, 2873, 2873112, 2874, 2874185, 28193, 2810922 and 2819331.

Subsection (e)(4) clarifies that in the first three years of fee collection, the fee on copper will only be imposed on the equivalent weight of copper in copper sulfate, cupric oxide and cuprous oxide. The fee is to be imposed only on these three copper compounds when they are sold by a supplier to any other person, or used on-site to produce other materials besides copper metal. Beginning three years after the fee is first initiated, subsection (e)(4) authorizes the Secretary of the Treasury to impose the fee on additional copper compounds or on copper as an element if necessary to better reflect the expenditure experience of the Fund. In making any decision whether to modify the fee by rule the Secretary is required to consult with the Administrator of EPA. In examining the expenditure of the Fund, the five criteria considered in designating substances subject to the fee shall be considered for copper and its compounds.

The technical judgments of the Secretary of the Treasury and the Administrator of EPA are to be accorded broad discretion and deference in implementing subsection (e). Such discretion and deference are appropriate because of the properties of the chemicals involved, the circumstances in which they are encountered, limitations in available analytical techniques, the need to minimize risks to response personnel and nearby populations. Protection of public health, welfare, and the environment take precedence over all other government responsibilities in a release of hazardous substances. It is not the intent that subsection 5(e) result in a shift of the burden of the fees to a relatively few, easily identified substances, such as oil or heavy metals, and away from substances which are not readily identified (e.g. acids, caustics, reactive hydrocarbons) because they volatize, have short half-lives, are chemically unstable, easily alter chemical composition when in the presence of other reactive chemicals, etc. The Administrator is expected to consider such factors which may increase inequities rather than diminishing them when advising the Secretary on whether to make any adjustments to the fee system.

Subsection (f)(1) would provide suppliers an economic incentive for the recycling and reuse of primary petrochemicals and inorganic raw materials. The Secretary of the Treasury, after consultation with the Administrator of EPA, may by rule reduce the fee in proportion to the extent that any primary petrochemical or inorganic raw material is produced solely as a by-product of pollution controls and used on-site or sold to other persons. Included within the purview of this section is that sulfuric acid produced from pollution control equipment (i.e. acid plants) used on smelters to clean up emissions of sulfur dioxide gas under the Clean Air Act. These plants convert sulfur dioxide gas into concentrated sulfuric acid. Of the 37.9 million tons of sulfuric acid produced in 1979, only 2.89 million tons (or 7.6 percent)

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came from the pollution control equipment on copper, lead, or zinc smelters. Most of this sulfuric acid is sold on the open market at a loss. This is because most smelters are located in isolated desert areas far from commercial markets for sulfuric acid, and the added transportation costs makes the acid economically unattractive.

Though the suppliers of primary petrochemicals, acting on behalf of the Fund, are required to collect fees from consumers of primary petrochemicals, where a portion of the petrochemical may also be used for a purpose that is exempt under subsection (f)(1), e.g. when used as a fuel, the consumer will be responsible for certifying to the supplier the amount of the primary petrochemical subject to the fee. Collection of such fees is intended to be compatible with the standard accounting practices of the supplier. This clarification is necessary, when the supplier in such circumstances knows only how much primary petrochemical was supplied and does not know to what uses it will be or has been applied. In such cases where a consumer must certify to the supplier the amount of the primary petrochemical subject to a fee, the consumer, rather than the supplier, would be responsible for the accuracy of such reporting in the event there is subsequent litigation. The supplier responsible for collecting the fee should be the person from whom the consumer of the primary petrochemical directly purchases the primary petrochemical.

The term "primary petrochemical" and "inorganic raw material" may not include any other substances other than those named in the definitions. The Committee does not intend to include coal-derived primary petrochemicals within the meaning of "primary petrochemicals". In the event that a primary petrochemical is taken from a liquid or gaseous stream containing other chemicals, computation of the fee shall be based only on the primary petrochemicals in the stream that are subject to fees under the Act.

The term "supplier" applies to any person who supplies specifically the substances identified as primary petrochemicals or inorganic raw materials. "Supplier" is not intended to refer to a person who may mine ores containing such substances, extract from the earth petroleum or natural gas containing such substances, or transport such ores, natural gas or petroleum. Such persons do not become "suppliers" unless or until they separate and process the specific primary petrochemicals and inorganic raw materials from the ore, natural gas or petroleum and supply the substances subject to the fee to others or use them themselves to generate intermediate products, final products or wastes. Where a primary petrochemical is taken from a liquid or gaseous stream containing other chemicals the "supplier" is that person who removes or separates the primary petrochemical from the liquid or gaseous stream and uses it to make more complex chemicals.

Livestock, Fishery, and Agricultural Product Coverage

Under paragraph (N) and (O) of section 6(a)(1), the Fund may be used to compensate an agricultural producer or processor or a commercial fisherman or fish or seafood processor for loss of income or capital loss due to destruction, loss, condemnation, or restriction on use resulting from a release of a hazardous substance. The provision allows compensation of agricultural losses since January 1, 1974, and fishing and seafood losses since January 1, 1978.

Testimony and subsequent investigations revealed that the production of food is affected frequently by releases of hazardous substances, and that such releases can have catastrophic effects on the livelihood of individual food producers and processors. It was necessary, therefore, to provide compensation from the Fund for the losses suffered by food producers and processors. The availability of such compensation will create an incentive to early reporting of such incidents, which will afford greater protection of the public health and reduce the spread of losses, particularly those occurring as a result of feed contamination.

Under this provision, the Fund would compensate both income and capital losses of food producers resulting from condemnation or restriction of use when a public health agency determines it to be necessary as a result of a hazardous substance release. "Public health agency" means any Federal, State or local body with the responsibility and authority to condemn or restrict products or the use of land or facilities under police or regulatory authorities arising from a release of a hazardous substance.

Different effective dates are provided for the authority of the Fund to compensate agricultural losses and fishing losses. For losses due to condemnation or loss of use of the following products and resources, the release must have occurred after January 1, 1974:

> pastureland, rangeland, or forestland; crops and croplands; bees, honey, and honeycomb; livestock; poultry and eggs; produce; grain; animal feed, including fish meal; and foods processed from any of these sources.

For losses of fish and shellfish stock, harvested fish and shellfish, seafood, and fish and seafood products (other than animal feed), the release must have occurred after January 1, 1978.

The provision does not cover single-cell proteins grown using alcohol or oil products, or processed foods for human consumption that include such proteins.

For the purposes of this provision, "loss of income" means actual lost sales plus any indirect losses or costs, other than capital losses, arising from a condemnation or restriction of use. For example, if as a result of a release of a hazardous substance the U.S. Department of Agriculture determines that meat packing operations in a given area must be temporarily halted, and as a result farmers and feedlot operators must continue feeding animals which were otherwise scheduled to be harvested, then the additional cost of grain borne by such farmers and feedlot operators is a compensable loss.

If a processor who is also a producer suffers a loss on its own produced (but not yet processed) commodities, then for the purposes of this provision, the income loss shall be:

> (1) The arm's-length market price of the commodity in the region or area in which the release or contamination occurred; or
>
> (2) The average of prices paid by that processor to other producers from whom it buys in arm's-length transactions in the region or area in which the release occurred; or
>
> (3) The actual cost of production, whichever is least.

For the purposes of this provision, "capital loss" means the actual lost value of land, buildings, vessels, docks, machinery, equipment, or other facilities which are destroyed, rendered useless, or reduced in

value as the result of a condemnation or restriction of use arising from a hazardous substance release.

This provision creates exceptions to three other limitations upon the uses of the Fund. Section 6(a)(4) precludes use of the Fund for payment of any claims for third-party damages, including lost income, capital losses, and loss of use of natural resources, arising from the field application of a pesticide. This provision was proposed in subcommittee and was endorsed by the joint subcommittee as a provision sent to the Full Committee for consideration. The Full Committee subsequently adopted the provision providing for use of the Fund to compensate agricultural and fishing losses with the intention that it be an exception to the prohibition on use of the Fund to compensate for losses due to field application of pesticides.

In addition, section 6(a)(3)(B) limits payments from the Fund for lost wages or other personal income to 100 per cent of losses in the first year and 80 per cent of losses in the second year. It is the intent of the Committee that this limitation not apply to agricultural and fishing losses under section 6(a)(1)(N).

Finally, the Committee adopted a provision in section 4(n)(2) prohibiting use of the Fund to compensate victims who suffered losses due to releases prior to the date of enactment. The specific dates of the agricultural and fishing loss provisions apply to these losses.

Agricultural claims are to be limited to those claims which are not compensated by insurance or under other government programs.

Claims Procedure

The basic procedure for claims against the Fund is provided by section 6(b), (c) and (d) of the Act. The purpose of the claims process is to assure prompt payment of valid claims where the claimant has been unable to obtain satisfaction from a liable party and has elected to pursue his claim against the Fund, rather than in a court action against the liable party for the same costs or damages. The President is given latitude in promulgating specific procedures aimed at achieving this end. It is intended that the procedures be as streamlined as possible, consistent with the necessity of fairly assessing the validity of claims presented and with sound financial accountability.

Where the Fund pays removal costs or for damages, it is subrogated to the rights of the claimant, and the President is to request the Attorney General to commence an action on behalf of the Fund to recover the amount of such payment from any liable party. As described in the section of this report entitled "Liability", recovery of such compensation occurs under the provisions of liability established in section 4, except where specifically precluded, in which case recovery may proceed under the authority of any other statutory or common law.

Under section 6(b)(1), (2) and (3)(A) the President is authorized to designate by rule Federal officials who may obligate money in the Fund. The President is also authorized to delegate administration of his duties and authorities to the appropriate units of the Executive Branch of the Federal government. The uses of the Fund authorized in section 6(a) include Federal government costs of implementing the Act and claims for removal costs and damages paid to others. Of course, payment of the government costs are subject to appropriation

Acts and are not intended to be subject to the claims procedure for claimants seeking third party damages and cost of removal, since this would preclude the government from providing timely response as intended by this Act and since some of the costs of operating the government program are not attributable to any particular liable party or incident of release, discharge or disposal. It is intended that the President duplicate under the authority of section 6(b)(1), (2) and (3)(A) procedures similar to those which have already been developed to administer the fund established in section 311 of the Clean Water Act. In this way, immediate government response can be assured.

Under section (b)(3)(A) the President is also authorized to promulgate and amend regulations for the presentation, filing, processing, settlement, and adjudication of claims which are compensable by the Fund under subsection (a). The regulations should prescribe appropriate forms and procedures for such claims, including a provision requiring the claimant to make a sworn verification of the claim to the best of their knowledge.

In addition to the general grant of authority in subsection (b)(3)(A), specific procedures are set forth.

Whenever any person alleges to the President that he has incurred damages which are compensable by the Fund, the President is to notify the appropriate liable party under section 4 of the Act, and any such person may, within 15 days of such notification or within 15 days of the presentation of a claim by a claimant, deny the allegations or deny liability for any of the reasons contained in section 4(a). The presentation of claims is facilitated by a requirement that the owner and operator of any vessel or facility from which a hazardous substance is discharged or released provide notice to all potential injured parties.

In all instances the claimant is required to first present his claim to the potentially liable person or persons, if known, prior to pursuing any right under this section. If the claim is not satisfied, the claimant, or in the case of death, the estate of such person, may then elect either to pursue his remedies in the courts or present his claim to the Fund.

With respect to claims for medical costs, the administrator of the Fund is given additional specific guidance. Such claims are to be reviewed promptly, and an order denying or certifying the claimant's injury is to be issued within ninety days. The Fund administrator is authorized to require documentation, verification, and authentication of the amount of the claim and to order any medical tests or examinations of the claimant deemed necessary to confirm the claimant's injury or diagnosis. The claimant is to be paid his certified costs within sixty days of certification by the Fund administrator.

Except in extraordinary circumstances where adequate private insurance and claims adjusting agencies or State agencies are not available, the President is to utilize such agencies in processing claims against the Fund. He is authorized to establish the procedures for processing the claims and to compensate the agencies for their services. It is expected that any procedure the President sets out will be conducive to speedy, informal settlement. For example, the administrator may attempt to promote and arrange a settlement between the claimant and any person who may be liable. If the claimant and the alleged liable person can agree upon a settlement, then the settlement would be final and binding upon the parties and further recourse against

the Fund would be considered waived. If, however, no settlement is reached through negotiation, the Fund administrator may, if satisfied that the information developed during the processing of the claim warrants it, make and pay an award of the claim from the Fund. If at any time it is determined that, because of a large number of claims arising from any incident, it is in the best interests of the parties concerned, the claims may be grouped for purposes of settlement, award, and appeal. If no settlement can be reached or acceptable award decided upon within the time provided in the Act for certification of medical claims, or, in the case of other compensable claims, within a reasonable time period set out by the President, a procedure for resolving disputes is provided.

The President is authorized to appoint one person as an arbitrator or to establish a panel of arbitrators (for a period not to exceed 180 days each) as necessary to hear and decide disputes concerning claims filed pursuant to this section. The President may appoint as many persons as arbitrators as he determines will be necessary to implement this subsection expeditiously and can increase or decrease the number in response to the demand. The arbitrators may be appointed from the private sector or any Fedearl agency employees except the staff administering the Fund or otherwise implementing this Act. It is anticipated that whenever possible, arbitrators would be selected through utilization of the procedures of the American Arbitration Association. Persons appointed as arbitrators are entitled to compensation and travel and other reasonable expenses in carrying out their duties.

It is intended that any hearings before an arbitrator or a panel will be informal and open to the public, and that the rules of evidence prevailing in judicial proceedings will not be required. The arbitrators, pursuant to procedures set out by the President, should have the power to administer oaths and to subpoena the attendance and testimony of witnesses and the production of evidence. Testimony, in keeping with the informal procedure envisioned, could be taken by interrogatory or deposition.

In any determination to be made by the Fund administrator or by an arbitrator or a panel, the claimant will have the burden of establishing his claim. In the case of a claim for out-of-pocket medical expenses, for example, the burden would consist of establishing to the administrator's or the arbitrator's satisfaction (1) that the claimant was exposed to a hazardous substance found in a release; (2) that the exposure was in such quantity or for such a duration that there is a reasonable likelihood that it is sufficient to cause or significantly contribute to injury or disease of the class or type of which the claimant complains; (3) that there exists a reasonable likelihood that exposure to the hazardous substance causes or significantly contributes to injury or disease of the class or type which the claimant claims to have suffered; (4) that the claimant has incurred out-of-pocket medical expenses as a result of the injury or disease; and (5) that the expenses are in the amount claimed.

If arbitrators feel that additional investigations, monitoring, surveys, testing, or other information gathering would be useful and necessary in deciding a claim, they could request the President to un-

dertake such activities pursuant to his authority under section 3(c)(3)(C) of the Act. The President would grant or deny any such request, based upon his assessment of the competing demands and the availability of the technical and financial capability which exists to undertake such activities. If the President decided to undertake any further investigations, it is expected that the usual time limits for determining claims would be suspended pending the results of the investigation.

The arbitrator's or panel's decision should be rendered within a reasonable time, to be specified by the President in the procedures established for the processing of claims. Any party dissatisfied with the decision should be able to appeal it to a federal district court of competent jurisdiction.

In the case of such an appeal, it is intended that the court give appropriate deference to the arbitrator's or the panel's ruling and that the court not overturn it except in the case of arbitrary or capricious abuse of discretion. Because of the informal nature of the determinations envisioned for claims, any decision by an arbitrator or a panel would not be considered admissible as evidence of any issue of fact or law in any judicial proceeding except an appeal under this section, although data adduced in the processing of claims under this section will, of course, be admissible pursuant to the ordinary rules of evidence.

It should also be noted that under section 5, if the total claims outstanding at any time exceed the current balance of the Fund, the President may, in his discretion, defer payment of all claims or of any class of claims, make partial payment on a prorated basis to each affected claimant, or provide, through regulation, for the payment of claims on a priority basis determined by relative hardship to claimants.

It should in addition be noted that the legal remedies in this Act are cumulative and not exclusive. Nothing in this Act requires pursuit of any claim against the Fund as a condition precedent to any other legal right. Notwithstanding any other provision of law, nothing contained in this Act prohibits a person from bringing a suit in a court of competent jurisdiction to recover for any damages or costs compensable under any other law. However, under section 8(b), any person who receives compensation for removal costs or damages pursuant to this Act is precluded from recovering compensation for the same removal costs or damages pursuant to any other State or Federal law. Any person who receives compensation for removal costs or damages pursuant to any other Federal or State law is precluded from receiving compensation for the same removal costs or damages pursuant to this Act.

Section 6(c) establishes a right of subrogation on the part of the Fund or other persons who pay compensation under the Act and provides that, on the request of the President, the Attorney General must commence an action on behalf of the Fund to recover any compensation paid by the Fund to any claimant pursuant to the Act, and for any costs incurred by the Fund by reason of the claim (such costs, which include, *inter alia*, interest, administrative, and adjudicative costs, are not subject to any limitation of liability set out elsewhere in the Act).

Section 6(d) establishes that the Fund is not to be used to pay for any claim to the extent that the discharge or release involved, or the

damages incurred as a result thereof, was caused by the gross negligence or willful misconduct of the claimant.

Finally, section 6(g) cautions that where government response under section 3(c) has not been undertaken or where the release, discharge or disposal constituted an inconsequential danger to public health or welfare, the Federal government should not seek damages or bring an action to recover *de minimus* damages under this Act.

Natural Resource Damage

The Committee found during its own hearings and from Committee-requested research by the Library of Congress (Report No. 96-13) that damage to natural resources due to releases of hazardous wastes is a very serious problem. In many instances the ramifications for the environment from such releases can be regional or national as well as local in scope. The Committee received testimony indicating that both short- and long-term damages to natural resources resulted from releases of hazardous substances and that standardized techniques for assessing both the biological and economic damages from such releases should be developed. Testimony also indicated that it was appropriate and necessary for the State or in some instances the Federal Government acting as trustee for such resources to seek restitution for such damages or restoration of such resources.

Liability for damage to natural resources

In order to preserve the public trust in the Nation's natural resources, S. 1480 establishes strict liability for:

(1) Any injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss;

(2) Any loss of use of any natural resources without regard to the ownership or management of such resources;

(3) Any loss of income or profits or impairment of earning capacity resulting from injury to or destruction of natural resources without regard to the ownership of such resources.

Section 4(b) of S. 1480 states that in the case of injury to, destruction of, or loss of natural resources liability shall be to the United States Government and to any State for natural resources within the State or belonging to managed by, controlled by, or appertaining to such State. In such cases of harm to natural resources the President, or the authorized representative of any State, shall act on behalf of the public as trustee in recovering for such damage, injury, or loss of such resources. In recovering for resource damage under S. 1480, a State acting as trustee will have rights and responsibilities similar to those of an individual claimant under the legislation. As directed in section 6(b)(3)(D), a claim for harm to resources shall in the first instance be presented to the person assumed responsible for such harm. If this claim is unsatisfied, the State or Federal Government may elect to commence an action in court or to present the claim for payment from the Fund. Monies from the Fund should be available to a State or the appropriate Federal agencies for use to restore, rehabilitate, or acquire the equivalent of such resources which have been

injured, lost or destroyed. It should be noted, however, that in a case where the election to pursue an action under this legislation in court is chosen, the measure of such resource damages shall not be limited to the sums which can be used to restore or replace such resources.

In the case where the trustee elects to apply to the Fund for damage to natural resources, a claim must be presented to the Fund and the Fund Administrator is required to promptly review such claim and either certify or deny certification as to such injury. When the Fund makes a payment for resource damage, the Attorney General, at the request of the President, can commence an action on behalf of the Fund to recover an amount equal to the compensation made by the Fund from such parties as may be responsible for such resource damage.

It should be noted that the Committee intended that actions to restore, rehabilitate, or replace natural resources under the provisions of this Act be accomplished in the most cost-effective manner possible. Section 6(f) of the reported bill should help in attaining this goal. This provision mandates that, except in cases where emergency measures are necessary, no restoration action concerning resource damage may take place until a plan outlining the steps to be taken has been developed and adopted by the affected Federal agencies and the Governor or Governors of any State or States where damage to resources has occurred. The process of developing such a plan will be of great assistance in avoiding unnecessary costs involved in restoring, rehabilitating, or replacing natural resources.

NATURAL RESOURCE DAMAGE ASSESSMENT

Investigations by the Committee on Environment and Public Works revealed the need for an improved, fair and expeditious mechanism for dealing with natural resource damages caused by releases of hazardous materials. The principal hindrance to attaining such a mechanism was the absence of a standardized system for assessing such damage which is efficient as to both time and cost.

The reported bill provides in section 6(e) that those agencies with management and protection responsibilities over natural resources should standardize a process through regulation for assessing damages to those resources. This could be done after a thorough review of alternatives for damage assessment. This approach will focus on scientific debate concerning damage assessment in the rulemaking process and result in a decision regarding the best simplified procedures for making accurate and defensible assessments of resource damages.

The rulemaking process would be carried out jointly by the Environmental Protection Agency, the Fish and Wildlife Service, and the National Oceanic and Atmospheric Administration in cooperation with various State governments. Hearings concerning the rulemaking might be carried out on a regional basis.

The rulemaking should produce a range of products. At one end will be simplified assessment procedures requiring a minimum of fieldwork and using a combination of habitat values, species values, and other simplified methods. Such procedures would be of value in dealing with minor releases. At the other end of the range would be damage assessment protocols to be used whenever the extent of natural

resource damage is substantial and extensive fieldwork becomes necessary. The assessment procedures and protocols should include a choice of acceptable damage assessment methodologies to be employed, with the evidentiary status of a rebuttable presumption accorded to the results when the protocols are followed.

There is a need for maximum flexibility in the rulemaking proceeding, so that free scientific discussion will result. Only through this type of discussion will the agencies be adequately prepared to select the most accurate and credible damage assessment methodologies available.

Since the state of the art of damage assessment is a complex matter, a time limit of two years is provided for issuance of initial regulations. Since knowledge in this subject is constantly changing, the regulations will be reviewed and updated on a regular basis every two years.

This subsection calls for the promulgation of two types of regulations. First, a simplified type of regulation is necessary to effectively deal with damage assessment in most "minor" releases of hazardous materials. Natural resource damage assessments based on this type of regulation should require as little fieldwork as possible, and rely on a combination of habitat values, tables of values for individual species, and previously conducted surveys and laboratory studies, related to units of discharge or units of affected area.

The other type of regulations would be employed in large or unusually damaging releases and would be used to guide the site-specific damage assessment. Such a regulation would contain protocols for field assessment of the type and extent of short- and long-term damage and methodologies for determining their value.

The protocols for field assessments should provide uniform instructions that will allow for thorough site investigation in a cost effective manner. Sampling and statistical procedures should be clearly defined. The methods for determining the geographical extent of damage should also be enumerated. It is the intent of the legislation that these protocols be designed to accommodate the majority of potential release sites, including coastal estuaries, open water, freshwater rivers, lakes and wetlands. The classification system of the national wetlands inventory should be of help in accomplishing this task and it should be used to the extent practicable in developing these protocols.

The regulations must also contain procedures for assessing the value of direct losses of organisms and their habitat and indirect losses of organisms and habitat through ecological interactions. The procedures for these types of monetary cost assessments are sometimes hard to define, but the agencies must review procedures available for completing these analyses and make a decision as to which are the most accurate and efficient for accomplishing the mandates in this legislation.

The reported bill also assigns the responsibilities for assessing damages to natural resources among three Federal agencies. The National Oceanic and Atmospheric Administration for marine resources, the Environmental Protection Agency for freshwater and estuarine resources landward of the baseline of the territorial sea, and the Fish and Wildlife Service for living resources and their supporting eco-

systems over which the Service has management or conservation authority, are designated as the agencies responsible for assessing damage and bring natural resource damage claim on behalf of the United States. Where State governments are the public trustees, the National Oceanic and Atmospheric Administration, the Environmental Protection Agency or the Fish and Wildlife Service can make assessments and bring claims on behalf of any State at the request of that State's Governor. There is nothing in this bill that precludes a State from carrying out its own natural resource damage assessments, provided that the State conforms its assessments to the regulations issued under section 6(e)(1)(A) of this Act.

The bill delineates agency responsibility to prevent duplication of effort and allow sharper focus on major environmental components. The U.S. Fish and Wildlife Service has responsibility for damage assessment research for fish and wildlife and their supporting ecosystems in freshwater, estuarine areas and marine waters except where the National Oceanic and Atmospheric Administration clearly has defined authorities for these resources either through Executive order or legislative mandate. The Environmental Protection Agency should have responsibility for water quality and drinking water supply aspects of damage assessments, including human health considerations.

It is the Committee's intention that the damage assessment personnel within the three agencies will be recruited specially for the tasks required in administering this act, and that they should work together to the maximum extent possible in developing these regulations and performing assessments in order to facilitate a close, cooperative, and efficient working relationship among the three agencies involved.

The process of damage assessment, particularly the evaluation of long-term or delayed impacts on biological systems, will entail research activities. It is envisioned that the three agencies will enlist the services of outstanding experts in performing damage assessments where regional fisheries or other biological resources are impaired. These research provisions of the bill are not designed to be applicable to any activity, including research, necessary to perform a damage assessment on a specific release. These costs are covered under section 6(a)(1)(I).

DIRECTED RESEARCH ON NATURAL RESOURCE DAMAGE ASSESSMENT

The reported bill includes requirements for directed research that will provide information needed to carry out damage assessments and determine the value of lost resources. Recommendations for natural resource damage reparations must be based on the best information available, and must assure a fair and consistent approach. The major emphasis should therefore be on development of protocols, methodologies, and procedures that will provide tools for damage assessment and effects research where such work is deemed critical to damage assessment determinations. Research efforts should include, but not be limited to, development of ways to assess (1) long term damage to ecosystems, (2) chronic effects such as those affecting behavior, reproduction, or food supply that result in indirect losses, (3) predictive capabilities to determine potential losses through trophic level interactions, and

(4) information on minimizing the damage caused by release control, dispersal, and cleanup operations. Research should be carried out both at field sites and in the laboratory.

This provision is designed to assure that a continuous and ongoing research effort is made to improve the methods and protocols used in evaluating release damage. The research program will improve the scientific bases for methodologies used in damage evaluation. In addition to research in technical disciplines, this program may include national conferences or other means of communications used to review and evaluate damage assessment methods.

LIABILITY FOR IRRETRIEVABLE COMMITMENTS OF NATURAL RESOURCES

In dealing with the issue of natural resource damage the Committee took note that in certain instances Federal officials make decisions in which resource trade-offs must necessarily be made, and in such cases liability for resource damage under this legislation should be limited. Specifically Section 4(b) contains a provision that no liability to the United States or any State for natural resource damage will accrue where the party sought to be charged under the Act has demonstrated that the damages to natural resources complained of were specifically identified as an irreversible and irretrievable commitment of natural resources in an environmental impact statement, or other comparable environmental analysis, and the decision to grant a permit or license authorizes such commitment of natural resources, and the facility or project was otherwise operating within the terms of its permit or license. For this provision to apply, a Federal agency in proceeding with an action or project must have completed a project- or action-specific environmental impact statement or similar analysis and such analysis must identify the resource damage which will occur from releases of hazardous substances if such action or project is carried out. In such a case where the specific resource trade-offs are understood and anticipated and in issuing the permit for such releases the agency takes into account this knowledge and allows the tradeoff, then no liability under this Act will accrue for resources damaged pursuant to those permitted releases.

This provision is not intended to expand in any way the authority of any Federal official to make irreversible or irretrievable commitments of natural resources. It also does not affect causes of action for damages to privately owned resources or for loss of use of publicly owned natural resources, under this bill or common law.

Post-Closure Liability

In order to assure that a hazardous waste management facility does not pose environmental or public health hazards after closure, and that any potential hazards can be promptly detected and remedied before they cause major damage, it is critical that these facilities be properly maintained and monitored after closure. Sections 4(j) and 5(k) of the reported bill establish a Post-Closure Liability Fund to finance the long term post-closure monitoring and maintenance necessary to protect human health and the environment for hazardous waste disposal facilities permitted and properly closed under subtitle C of the Solid Waste Disposal Act.

This Fund would also fully assume the liability of owners and operators of such permitted sites for any damages or cleanup costs which are incunrred by the site after closure.

The Fund should pay all costs for site restoration, economic damage and personal injury causd by the closed facility, both as recognized under this bill and claims arising under common law or other statutory law. In addition to the money set aside by the site operator during site operation to be available for routine monitoring and maintenance for the 30-year post-closure period, the Fund will pay for any further routine care and testing required and arranged by the regulatory body responsible for the facility after it closes.

The Fund will pay for post-closure monitoring and maintenance and assume liability for damages and cleanup expenses only where a facility has met the following three requirements. First, the facility must have been issued an individual permit under subtitle C of the Solid Waste Disposal Act. Facilities which close prior to the issuance of a final permit (i.e., while they are still in interim status) will not be covered by the Fund.

Second, the facility must have complied with each condition of its permit and applicable Subtitle C regulations relating to closure or affecting the performance of the facility after closure. This encompasses not only closure and post-closure requirements, such as applying cover and revegetating and monitoring the site, but also any other standard or requirement designed to insure the integrity of the facility or to prevent, minimize or monitor the escape of hazardous wastes or their constituents after closure (including, for example, requirements for liners, leachate collection and treatment systems, soil barriers, pumping facilities, and groundwater monitoring systems).

Finally, the facility and surrounding area must be monitored for up to 5 years after closure to demonstrate that there is no substantial likelihood that hazardous substances or hazardous waste constituents will be released into the environment or other risk to public health or welfare occur.

Hazardous waste management facilities will have active lives of 10–20 years during which they will be closely monitored by regulatory officials. Typically, these facilities are operated in phases such that the earliest sections will have been closed for many years before the site finally ceases operation. At the time of final closure, in addition, the subtitle C regulations provide a 6-month period during which intensive engineering is done at the facility to apply the final cover and contour and secure the site. It is not until this process is complete that the facility is properly closed. At this point, the facility operator must notify the Administrator of the Environmental Protection Agency that the facility has been properly closed and have an independent professional engineer certify that closure was properly completed. Under section 4(j) the Administrator will then have up to five years to determine independently that the site has been closed properly. By regulation, the Administrator can determine that a period shorter than five years is sufficient for facilities which, during their active lives, have been closed in cells or phases, closely monitored, and inspected frequently. The post-closure period for monitoring is provided so that the Administrator can test further if it is felt to be necessary or desirable. This requirement is not intended to create a new standard—the facility is to be judged on compliance with the regulations and its closure order.

Section 4(j) provides that the Post-closure Liability Fund will automatically begin to cover a closed facility for all claims arising after that date, starting 90 days after the owner or operator has notified the Environmental Protection Agency that it has complied with the requirements outlined above, unless the Administrator determines that the site is not in compliance or that it has submitted insufficient information to determine whether it is in compliance. A determination that a facility is in compliance is voided at any time that the Administrator receives new information indicating that such determination was erroneous. If the Administrator has cause to believe the facility operator made fraudulent representation or knowingly or willfully violated his permit, the transfer of liability to this fund is cancelled and the Administrator is directed to seek to recover from the operator. The operator is released from liability only if he actually complied with the regulations and his permit and closure order.

These three requirements are intended to limit Post-closure Liability Fund coverage to those sites which have fully complied with subtitle C requirements and have a proven record of good performance. By so doing, this provision should be a significant monetary incentive to site owners and operators to design, construct and operate their facilities in an environmentally sound manner, and to fully comply with all subtitle C requirements. At the same time, limiting fund coverage to low-risk sites should substantially reduce the likelihood that the fund will be significantly depleted by a single incident.

During consideration of this provision, the question arose whether having such a fund pay all post-closure damages would lessen the incentive to operators to exercise due care in the way they manage the wastes. It is expected the regulatory program itself will assure a high standard of care. Beyond that, access to this fund is available only to facilities with final subtitle C permits who have completed proper closure. For others, owners and operators remain fully liable for their facilities, and all are liable for anything occurring during operations. Rather than a disincentive to proper operation, the liability fund mechanism offers an additional "carrot" to supplement the regulatory "stick" to promote proper operation.

With the vast quantities of hazardous wastes which will be subject to regulation for the first time under the subtitle C program of the Solid Waste Disposal Act, this nation will need, in the very near future, 50–60 additional regional hazardous waste management sites with specialized facilities for proper handling, treatment, and disposal of hazardous wastes. The private sector must contribute much of this new capacity and needs to begin developing these facilities now. Such facilities are expensive and require 3 to 5 years for development and construction.

Development of this capacity, however, is being delayed and complicated by public opposition to these sites, and by the unavailability of meaningful insurance coverage for the post-closure period. Creation of a post-closure liability fund offers part of the solution to the problem of siting the additional facilities necessary to meet the Nation's hazardous waste management needs. Assurance that funds are readily

available to clean up and restore problem facilities and to pay future claims for property damage or personal injury will reinforce public confidence. This, along with strict regulatory standards and enforcement will add considerably to public confidence that hazardous wastes will be managed safely. Also, creation of a post-closure liability fund such as outlined above would enable private companies to manage their liabilities and attract the tens of millions of dollars in investment capital which will be necessary to build the next generation of modern hazardous waste management facilities. Without such a fund, responsible companies may seek more manageable risks and pressure will build on municipal, State, and even the Federal government to shoulder the burden of providing these additional facilities.

Section 5(k) creates a $200 million fund which would be replenished by upward adjustments of the fees schedule, if necessary, so that funds would always be available to meet monitoring and maintenance costs or satisfy judgments. The Environmental Protection Agency is directed to conduct a 3-year study on the adequacy of this amount so that the Congress might reexamine this question in several years. It is unlikely that this fund will be required for several years. It could be several years before many permits are granted under subtitle C. Since it makes little economic sense to make the huge investments to obtain a permit (including taking on liability for the 30-year post-closure monitoring responsibility) for a facility with only one or two years remaining, any permitted facilities will probably operate for several years. In addition to the years of operating life, there would be the period of closure and then the potential 5-year period before the transfer to the liability fund would actually occur. Thus, there is no immediate need to be exact at this time in determining the amount of the fund. Two hundred million dollars, to be collected over the first five years after enactment, is an appropriate initial level.

The fund is financed by fees on each unit of hazardous waste which is received by a permitted or interim status facility and which will remain at such facility after closure. Because facilities which do not remove wastes and waste residues prior to closure (e.g., landfills, land treatment facilities, surface impoundments) pose the greatest post-closure health and environmental hazard, it is appropriate to require them to finance the fund. The assessment of fees only on this category of wastes is intended to have the effect of discouraging disposal as a waste management practice and thereby reduce the amount of waste which is handled in a manner which could pose a long-term environmental danger.

The Administrator has broad discretion in establishing this fee. He may choose whatever fee unit (e.g., volume, weight) he deems appropriate. He may set a uniform fee for each unit (other than those of wastes with large volume and relatively low hazard) or he may establish waste-specific unit fees based on the relative hazards posed by the wastes subject to the fee. Even if the Administrator chooses this latter route, he has substantial leeway in setting fees for individual wastes. There are recognized difficulties inherent in establishing a fee system which attempts to rank wastes according to the nature and degree of hazard they present, and it is not expected such a system under this provision could do anything more than draw very rough distinctions among classes of wastes.

Financing Responsibility

Too often the individuals engaged in the manufacture, transportation, use, or disposal of hazardous substances are financially irresponsible. This has been especially true of persons engaged in hazardous waste disposal, whether they are real persons or corporations. In some cases, the assets consist only of a truck that may be rented. When a corporation has been created, the directors and officers are often shielded from personal liability.

To help prevent this, section 7 of S. 1480 requires those engaged in businesses involving hazardous substances to maintain evidence of financial responsibility commensurate with the risk which they present. This requirement is modelled on similar provisions in the Clean Water Act and the Solid Waste Disposal Act.

In order to avoid severe dislocations and unwarranted intermodal transportation shifts, the requirements other than for vessels are to phase in gradually. The first ones are to be promulgated no sooner than five years after enactment and even then they must phase in over no fewer than three additional years. This phasing was drafted in consultation with representatives of the domestic insurance industry to assure that as the need arose, commercial insurance would be available.

Section 7 provides that the financial responsibility requirements of section 311(p) of the Clean Water Act are to be the model for financial responsibility under this bill, with certain changes and exceptions. For vessels, the financial responsibility requirement is increased to $300 per gross ton or, for a vessel carrying hazardous substances as cargo, the greater of $300 per gross ton or $5,000,000. The existing limits under section 311(p) are $150 per gross ton or $125,000.

The bill requires also that facilities maintain evidence of financial responsibility consistent with the degree and duration of risks associated with the production, transportation, treatment, storage, and disposal of hazardous substances. These requirements are in addition to the financial responsibility requirements promulgated under the authority of section 3004(6) of the Solid Waste Disposal Act. It is not the intention of the Committee that operators of facilities covered by section 3004(6) of that Act be subject to two financial responsibility requirements for the same dangers. The purpose of this provision is twofold: first, to extend financial responsibility requirements to facilities and transporters who are not now covered by any requirements under section 3004(6), and second, to create authority for phasing in financial responsibility requirements for facilities and transporters.

Section 7 provides for a delay of five years from the date of enactment before the financial responsibility requirements for facilities would be promulgated. The requirements would be imposed first on those classes of facilities which have the highest and most frequent damages. The government is required to identify these groups and publish this finding three years after enactment, thus providing two years' notice of which groups will be first subject to the requirements. Once the financial responsibility requirements are developed, they would be phased in over a period of no fewer than three years and no more than six years. The purpose of this approach is to allow time for

the accumulation of information while keeping this market open to commercial insurers. There will be five years in which claims experience can be built up, then another three-year period in which insurers can gradually enter the market.

The problem of insurability is also dealt with in subparagraph 6(b)(3)(E), relating the obligations of guarantors.

It should be clear that section 6(b)(3)(E) should not operate to encourage any guarantor to delay settlement, or increase the difficulty in filing or receiving proper claims. In the event a guarantor raises roadblocks or causes other inappropriate delays in payment of claims, the body of law imposing payments of claims greater than policy limits would continue to apply as a disincentive to such bad insurance practices.

Worker Protection

The bill contains a series of provisions to assure that workers responding to hazardous substance releases are safe from the substance they are cleaning up and are paid fair wages.

Under section 6(a)(2)(A)(v), States and their contractors are required to make use of the procedures in the revised National Contingency Plan to protect workers involved in response actions. Section 6(a)(1)(P) provides for the Occupational Safety and Health Administration and the National Institute for Occupational Safety and Health to be consulted during revision of this plan by the Environmental Protection Agency in order to establish worker protection procedures for land-based releases and dumpsites, as well as spills to navigable waters, and section 3(e) requires the Administrator to comply with Federal health and safety standards in contracts for response.

Also, the bill requires under section 6(j) that workers used by Federal and State governments and their contractors in responding to hazardous substance releases be paid prevailing wages, as determined by the Secretary of Labor, under the Davis-Bacon Act.

Section 10 of the bill forbids an employer from firing or otherwise discriminating against an employee who reports hazardous substance releases or provides information in legal proceedings, and provides a grievance procedure for cases in which such discrimination is alleged.

These kinds of releases are often extremely serious public health emergencies that can go undetected if they are not reported. People could be drinking water contaminated with extremely dangerous chemicals for months or years and not know it. The worker who sees such a threat being created has a public duty to report it. And he has a public duty as a citizen to appear in the proceedings and tell the facts about what he knows.

Without this amendment, the worker who knows of a release is in jeopardy of losing his job for protecting his fellow citizens. The Love Canal incident demonstrates the results of a serious release going unreported for years. There have been miscarriages, deformed children, and a wide range of other ailments—preventable ailments. This provision is similar to provisions in the Clean Air Act, the Clean Water Act, and the Solid Waste Disposal Act. Its protection does not extend to a worker who deliberately violates a provision of S. 1480 without being directed to do so by his employer.

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Workplace Exposure Exclusion

Under an exception in section 2(16)(B)(i) to the definition of release, an injury caused by a hazardous substance exposure in the workplace is not a "release" under the bill if the employer of the injured party is liable under worker's compensation law.

The intent of section 2(16)(B)(i) is to exclude from compensation through the Fund, from liability under section 4, and from the notice provisions of section 3, an injury which is compensated through worker's compensation law.

The provision does not broadly exempt releases which occur solely within a workplace from the bill. For example, if a release occurring solely within a workplace created a hazard of damage to human life or to the environment, it is contemplated that the Fund would have authority to respond with all of its authorities except for compensating workers whose employers are liable for their injuries under worker's compensation law. In addition, the liability provisions of section 4 would apply to these response costs and to third-party damages (other than those for which the employer of the injured party is liable under worker's compensation law).

Further, the provision does not bar an injured worker from legal action under section 4 of the bill against any party other than an employer of that worker liable under worker's compensation law.

Two further issues were brought to the attention of the Committee during consideration of this provision.

One concern is that under some Federal and State worker's compensation laws, an injured worker who wins a judgment against a third party (such as the manufacturer of hazardous substance used in the workplace) can suffer an interruption of periodic compensation. This can occur when the employer has been paying benefits while the injured worker pursues a lawsuit against the third party. Under the Longshoreman's and Harbor Worker's Compensation Act and the Federal Employee's Compensation Act, the employer has a lien against any award for all worker's compensation benefits paid to the date of the settlement and would be free from paying future compensation until the proceeds of the settlement or judgment (including payments for pain and suffering) were actually exhausted as if the entire sum were compensation for lost income.

The second concern is that settlements between workers and third parties are, under some state worker's compensation laws, subject to approval by the injured worker's employer, even if the employer was not a party to the action as coplaintiff or codefendant.

Such provisions can work severely to the economic disadvantage of injured workers. Awards, settlements and the payment of claims under this bill, whether through the Fund or through the liability provisions of section 4, are immune from such provisions of other Federal law or State law. An employer who pays worker's compensation as a result of an injury for which an employee later receives an award or settlement from a third party is entitled (pursuant to this provision and subsection 8(b)) only to a lien for worker's compensation payments made or owed in the future, and the lien is allowed only against

that portion of a judgment or settlement made to replace lost wages and future earnings, not against any portion of a judgment or settlement for pain and suffering or other losses.

In addition, section 2(16)(B)(i) bars compensation from the Fund and through section 4 liability only when the employer of the injured worker "is liable" under worker's compensation law. A mere allegation of an employer's liability under worker's compensation law does not bar either compensation of an injured worker from the Fund or legal action by a worker against a third party under section 4. A finding of liability or a settlement accepting liability by the employer is necessary to come within this exception. In cases where the Fund has paid benefits to a worker injured by a hazardous substance release and the worker's employer is later held liable or consents to compensate the worker under worker's compensation law, the employer must reimburse the Fund for benefits the Fund had already paid in a manner that does not disrupt the disability income of the injured party.

Litigation and Conforming Amendments

Section 9(a) and (b) provide for jurisdiction and venue of actions brought under this Act. The Circuit Court of Appeals of the United States for the District of Columbia is given exclusive jurisdiction to review regulations promulgated under this Act. An application for such review must be made by an interested party within ninety days of promulgation or be barred. The United States district courts are given exclusive original jurisdiction over all other causes of action arising under this Act with venue lying in the place where the wrong or damage occurred or where the defendant resides, is found or does business.

Section 9(c) permits the survival of any hazardous substance litigation commenced prior to the enactment of this Act.

By explicitly stating liability rules in this statute, the Committee does not intend that S. 1480 in any way preempt or weaken any other law. All other remedies are to continue to exist after enactment of this bill, including those under common law, admiralty law, and Federal and State statutory law. This is important to note, in that while S. 1480 in many respects generally codifies existing law, in some specific respects its liability rules are more limited than those under existing law. For instance, while the Fund is precluded from using the rules of section 4 to seek recovery for cleanup costs or payment of damage claims for certain categories of releases, other remedies or provisions of the common law or any other law are available to the Fund and the Fund should use them to recoup its expenses.

Section 9(d) also transfers one half of the funds appropriated under section 311(k) and all the funds appropriated under section 504(b) of the Clean Water Act to the Fund created by section 5 of this Act. The Fund is made available to reimburse States for costs of removal of hazardous substances under section 311(c)(2)(H) of that Act. Guarantors of owners' or operators' liability under this Act are added to possible defendants whom the United States may sue under sections 311(f) and 311(g) of the Clean Water Act.

Section 9(e) provides that in any conflict between section 311 and the provisions of this bill, S. 1480 prevails.

Executive Communications

The White House,
Washington, D.C., June 5, 1980.

Hon. Jennings Randolph,
Chairman, Committee on the Environment and Public Works, U.S. Senate, Washington, D.C.

Dear Mr. Chairman: One year ago, I proposed comprehensive legislation to protect the public health and environment from the hazards of careless and improper disposal of chemical wastes. Enactment of the "Superfund" bill is one of my top environmental priorities.

Since then, your Committee has provided crucial leadership in moving forward a Superfund bill. Now in the last hectic months of the 96th Congress, this legislation is in a race against time despite widespread support for it. I urge you to do everything you can to report S. 1480 by the July 4 recess.

A number of dramatic events during the past year have reinforced the urgent need for a strengthened emergency response program addressing oil and chemical hazards. The human suffering and financial costs associated with the Love Canal site are a national tragedy. We are concerned that there may be thousands of other sites around the country that also require emergency cleanup to prevent future disasters.

My Superfund proposal has two key features which any legislation you report should include: a strong system of liability to encourage responsible parties to undertake cleanup activities themselves, and assured funding of $1.6 billion over four years, of which at least 80 percent should be provided by industry contributions.

I commend the Committee's action in starting this process this week and am particularly pleased that the strict, joint and several liability provisions have been retained, as my Administration proposed. A strong liability provision will prove to be our most powerful incentive to obtain cleanup by responsible parties and is essential to effective legislation.

I know you share my deep concern about the dangers posed by abandoned hazardous waste sites. I have already mobilized my Administration to address the Love Canal tragedy and we will be prepared to implement the Superfund legislation as soon as the Congress passes it. The Superfund legislation must be enacted this Summer in order to prevent additional human suffering.

Sincerely,

Jimmy Carter.

The White House,
Washington, D.C., February 4, 1980.

Hon. Jennings Randolph,
U.S. Senate,
Washington, D.C.

Dear Senator Stafford: Last June, President Carter submitted a legislative proposal to deal with one of the most important en-

tected from, and compensated for, damages resulting from exposure to such hazardous substances and wastes.

Finally, the Administration believes the issue goes beyond a mere legal question. The chemical manufacturer in Niagara Falls, New York who contributed most of the wastes at Love Canal, knew of the hazards as long as 20 years ago and still failed to act. A producer of agricultural chemicals has polluted drinking water supplies with DBCP, despite evidence that it is a carcinogen and causes sterility. Numerous chemical companies have been content to contract to have wastes known to be toxic hauled away and then wash their hands by disclaiming any knowledge of how they would ultimately be disposed. In some instances, such as Pittston, Pennsylvania, these past practices continue until those responsible are discovered. Very few, if any, corporations, either big or small, have voluntarily come forward to warn the public of present hazards they have created in the past and of which only they are knowledgeable, despite the fact that approximately 80 percent of hazardous wastes were disposed on-site. These are not, as is being claimed, the failings of inadequate past standards or practices, they are acts of omission today on the part of some elements of industry. As the common law has recognized, knowing failure to take action now to protect society from a hazard created previously, is in practical effect, the same as originally creating the hazard.

WHAT SHOULD BE COVERED

CMA has argued that combining spills of oil, spills of hazardous chemicals, and releases of chemicals from hazardous waste disposal sites are three completely different problems requiring different approaches and remedies.

In the Federal Water Pollution Control Act of 1972, specifically Section 311, Congress established that spills of oil and hazardous substances were not "completely different problems" but, instead, were so similar that they should be dealth with by coverage under the same provision of law. Congress reaffirmed this course of action with passage of the Clean Water Act of 1977. The "Superfund" proposal merely incorporates existing law, in this regard.

Moreover, it is often the case that a spill incident involves both oil and hazardous substances. Spilled PCB-laden oil, for instance, is an example of a commonly encountered situation. Train wrecks which spill oil and such hazardous substances as chlorine or sulfuric acid are also examples. The sites used by many illicit dumpers and the cargoes they dump are very frequently combinations of oil and chemicals. We are finding that many, and possibly most, abandoned and inactive hazardous waste disposal sites involve waste oil as well as chemicals.

From a programmatic point of view, government emergency response to spills and abandoned sites cannot be readily separated. The people who will be implementing any legislation in the field believe that their ability to act to protect public health will be enhanced by one comprehensive system because the need for immediate notification and response, emergency response actions, and engineering techniques required for containment and remedy, are the same for spills of hazardous substances and oil and for hazardous wastes and waste oils at

abandoned and inactive hazardous waste disposal sites. Also similar are many of the threats to public health and the environment as well as the choices faced by response personnel—evacuation, providing alternative drinking water supplies, and ultimate disposition of the spilled materials.

It has been EPA's experience that emergency response must often begin prior to determining whether the pollutants involved include hazardous substances as well as oil or whether the source is a classic disposal site. The present emergency at abandoned coal mines under Pittston, Pennsylvania illustrates the need for a comprehensive approach. Initially the problem was discovered as a 35 mile long oil slick floating on the Susquehanna River. At the request of the State, emergency Federal government efforts were initiated to deal with the presumed spill. The fumes of toxic chemicals combined with the floating oil alerted on-scene personnel to a more complex and dangerous situation, although the nature and source of the toxic chemicals was not known for the first several days while efforts to stop the spread of the oil and chemicals continued. Subsequently, it has been determined that the oil, chemicals, and explosive fumes were coming from illicit dumping of hazardous wastes into abandoned coal mines that drained to the river.

In the field, our people are often required to make emergency response decisions on weekends, in the middle of the night or before the source of the spill is known. In such circumstances, if they cannot respond because of separate laws, they must first determine what substances are involved, whether the source is a classic spill or a waste disposal site, and which legislation authorizes funding the response. The Administration's proposed legislation would protect the public no matter where the contamination occurred, no matter what substance was involved, and no matter how the incident was caused.

From the point of view of bureaucratic and regulatory reform, two or three different programs would be extremely inefficient. The administration of separate response mechanisms, fee collection mechanisms, fund management schemes, liability regimes and claims procedures would require more personnel resources than one comprehensive approach. Most importantly, in regard to an area about which industry, especially CMA, has complained, frequently, several separate programs would unquestionably increase duplication paperwork and the number of regulations.

ARE THERE GAPS IN EXISTING LAW?

CMA states that "there is no need for a Superfund for chemical spills . . . one which duplicates existing laws." The Administration's proposal does not duplicate existing laws with regard to chemical spills; it incorporates and expands upon them. This expansion is necessary because—and this applies to oil spills as well as chemical spills—Section 311 of the Clean Water Act, the existing law does not authorize government action for spills onto the ground only, or spills that result only in the release of gases into the air. It also does not adequately cover spills that contaminate only groundwater. While Section 504 of the Clean Water Act authorizes government response to such incidents as well as to spills of substances that have not been

vironmental and public health issues facing our Nation. The threat caused by the improper handling and disposal of oil, hazardous substances and hazardous wastes, such as the incidents at Love Canal and Valley of the Drums, have highlighted the inadequacy of the existing laws and inability of governments at all levels to respond quickly and efficiently to these dangerous situations. There may be thousands of hazardous waste sites which will need attention in the coming years. An effective public policy is urgently needed to deal with this situation.

The Senate Environment and Public Works Committee has before it President Carter's comprehensive Superfund proposal. In his State of the Union Message, the President reiterated his strong support for this legislation. This legislation is absolutely essential if we are to meet our responsibilities to protect the public from the threat of oil and hazardous substance spills and waste sites. It is important that legislation dealing with this national problem move forward by the May 15 deadline for legislation requiring appropriations.

Therefore, I urge the Committee to give this legislation expeditious consideration. I look forward to working with you in the coming weeks on this important public policy issue.

Sincerely,

STUART E. EIZENSTAT,
Assistant to the President
for Domestic Affairs and Policy.

U.S. ENVIRONMENTAL PROTECTION AGENCY,
Washington, D.C., September 25, 1979.

Hon. JENNINGS RANDOLPH,
Chairman, Committee on Environment and Public Works, U.S. Senate, Washingon, D.C.

DEAR MR. CHAIRMAN: On September 25-26, 1979, the Subcommittee on Environmental Pollution and Resource Protection will mark-up S. 1480, the "Environmental Emergency Response Act". This bill is similar, although certainly not identical, in a number of important respects to the Administration's "Superfund" proposal, S. 1341. The Administration's proposal would provide a fund based upon fees from industry and general appropriations to cleanup and provide emergency government response at abandoned and inactive hazardous waste disposal sites as well as spills of oil and hazardous substances. In addition, the bill would provide for government notification of such incidents and compensation of victims, as well as establish the liability and financial responsibility of involved parties.

As the President stressed in his letter transmitting the Administration's bill, this legislation addresses several of the "most significant environmental and public health problems facing our Nation". The urgency and importance of this legislation requires that I respond before mark-up to some of the more significant issues raised by the Chemical Manufacturers Association (CMA) in testimony before your subcommittee on July 19, 1979. The testimony made a number of assertions and criticisms of the Superfund proposal which the Administration believes are incorrect.

WHO SHOULD BE LIABLE

The CMA asserts that the Administration's proposal imposes penalties today for past disposal activities which were not considered incorrect or unlawful when they occurred. It also suggests that the proposal constitutes an ex post facto denial of due process and overturns existing liability concepts.

The legislation proposed would establish liability for costs expended by the government to clean up past disposal practices that *today* are threatening public health and the environment, and it does so without reference to prior standards. The supposition of the Administration's proposal is that society should not bear the costs of protecting the public from hazards produced in the past by a generator, transporter, consumer, or dumpsite owner or operator who has profited or otherwise benefited from commerce involving these substances and now wishes to be insulated from any continuing responsibilities for the present hazards to society that have been created. To relieve industry of responsibility for chemicals whose effects only become visible years later, is to sentence our children's society to a potentially enormous burden. Relieving industry of responsibility establishes a precedent seriously adverse to the public interest. It tells polluters and others who introduce hazardous substances into our society and environment for profit that the longer it takes for resultant problems to appear—regardless of their severity—the less responsible they are for solving the problem.

The CMA charge that Superfund constitutes an ex post facto denial of due process on the grounds that it somehow broadens liability beyond that which existed at the time wastes were placed in the site, is politically advocacy, not good law. It is well established that the constitutional prohibition against ex post facto laws, with very narrow exceptions, applies only to criminal laws. The relevant provisions of the proposed legislation are not criminal laws. Further, the evolving case law surrounding hazardous chemicals as well as waste disposal sites has recognized that it is the present condition of the disposal site which must be repaired, regardless of whether the seeds culminating in this condition were sown a number of years ago.

More importantly, the liability provisions of Superfund are not retroactive at all. They merely codify longstanding common law rules relating to liability for hazardous products and undertakings. Existing common law principles hold that in areas of ultra-hazardous activity, liability is attached to any injury resulting directly or indirectly from the activity. This is true regardless of whether the injury was foreseeable or whether negligence or contributory negilgence was involved. There is a great deal of precedent in case law which focuses on ultra-hazardous activity involving explosions, fires, and like hazards. As recent State and Federal court decisions are emphasizing, the reasoning of legal decisions in these cases are applicable to environmental incidents involving hazardous substances and wastes such as dioxin, benzene, PCB's phosgene gas, and carbon tetrachloride, as well. In such instances, the government must be able to act as an agent for the people in providing the protection the common law established. The proposed legislation carries these legal prinicples into statutory law. In this way, society can be more quickly and easily pro-

designated under Section 311, neither Congress nor Democratic or Republican Administrations have funded this section. Furthermore, Section 504 authorizes only $10 million—an amount which is inadequate to clean-up even one abandoned hazardous waste disposal site of significant size. Secondly, existing law does not provide for any compensation of damaged third parties. The Administration proposal provides compensation for property damages and limited economic livelihood damages. Again, this is an expansion and not a duplication of existing law. To provide third party damage compensation for oil spills but not for chemical spills, a position implied in CMA's statement, would be quite unfair and not in the best interests of the public.

FEES VERSUS APPROPRIATION

CMA suggests that the Administration's proposal unfairly places the entire financial burden of Superfund on the chemical industry. Instead, CMA believes that funds should be provided by the general taxpayer. In addition, CMA claims that the proposal assumes that all products of the chemical industry are hazardous, and that the only hazardous products are those of the chemical industry.

The economic impact analysis done for Superfund indicates that virtually all the costs of the fee system can be passed through the chain of commerce to the ultimate consumer of the final products made from the chemicals subject to the fee without significant economic impact. The industry has not provided any analysis to refute the economic impact analysis. Recent articles in *Chemical and Engineering News* confirm this. In the March 5, 1979 issue, for example, Union Carbide Vice President Richard Hughes is cited as stating that despite huge price increases for petrochemical feedstocks, the supply-demand situation now makes it feasible for producers to recover their increased costs. Mr. Hughes' statement refers to price increases which are far greater than those that would result from the Superfund fee. In the July 2, 1979 issue, a leading Wall Street chemical industry analyst states that the chemical industry should be able to pass along feedstock price increases—again in excess of Superfund fees—by raising its product prices. In an industry with an historic annual average of six to eight percent profits and equally high rates of growth, fees of less than two percent will, at most, produce a slight reduction in the rate of growth. In summary, in no way does this amount to a shouldering of the entire financial burden of Superfund. Moreover, the CMA charges fail to point out that the Administration's Superfund would also necessitate, in addition to industry fees, significant funding from Federal and State taxpayers.

The Administration does not believe that funds for the cleanup of abandoned and inactive hazardous waste disposal sites should come exclusively from general Federal revenues as CMA advocates. Rather, as is embodied in its Superfund proposal, the Administration feels that needed funds should be raised from a combination of general appropriations and fees on the industries and consumers who, while benefiting economically have exposed society to these hazardous risks. In an era when a balanced Federal budget has become a paramount national objective, such an approach is the best and perhaps only means to assure the availability of the billions of dollars needed to deal with

the abandoned site problem. The public simply will not stand for being misled by the Administration and Congress into thinking that sufficient general funds will be made available, only to have its raised expectations dashed by equally legitimate balanced-budget considerations.

Finally, in terms of equity, the Administration believes that it is less fair for the general taxpayer to bear this financial responsibility than it is for consumers who benefit from the commerce of hazardous substances to do so. Too often the general taxpayer is asked to pick up the tab for problems he or she did not create. Using special fees to differentiate between the general public and those who benefit from specific commercial and industrial practices is widely accepted, not only in our society but throughout the world, and should be used in this case.

WHO SHOULD PAY

With regard to CMA's assertion that the Administration's proposal assumes that the only hazardous products are those of the chemical industry, this is incorrect. A portion of the hazardous substances and wastes which despoil our environment and affect public health come from industries other than the chemical industry. However, at an earlier step in the industrial and commercial chain of production, all of these hazardous substances and wastes are generated from either petrochemical feedstocks or inorganic raw materials. It was this reasoning, in fact, which led the Administration to recommend the feedstock/raw material fee system. By collecting a fee at this early point in the production process, the Administration believes that the costs are equally passed on to all industrial sectors generating hazardous substances and wastes, while at the same time requiring only 700–900 fee collection points, and, thus, ensuring a minimal fee collection bureaucracy, and a fee system which because of its simplicity, can be quickly implemented.

In contrast, the generator-based fee which CMA has privately advocated, would require that the fee be collected from hundreds of thousands of generators of hazardous wastes, and substances (many of them small companies). A generator-based fee would require two separate fee systems—one for generators of hazardous substances and another for generators of hazardous wastes; sometimes they are the same, but often they are entirely different companies. The dual fee system and hundreds of thousands of companies from which a generator-based fee on hundreds of chemicals would have to be collected, will significantly increase government paper work imposed on industry, be extremely difficult to defend in court, and we believe, effectively render administration of the fee system inoperative. The economic impacts of a generator-based fee, unlike the feedstock/raw material fee system, also has significant environmental and economic impacts. A generator fee is a direct incentive for illicit dumping and avoiding coverage under the manifest and permit programs established under the Resource Conservation and Recovery Act. For example, for land disposal the primary means of dealing with these wastes today the average generator will have to pay at least a one-third increase in the costs of disposal. Electroplaters leather finishing, secondary copper/lead/aluminum smelting, wood fabric dyeing and finishing, steel

industry, primary lead smelting, and woven fabrics are among the dozen industries that would be especially impacted. For example, costs of disposal to the steel industry would jump from $2 per ton to $11 per ton, and woven fabrics from $3 per ton to $12 per ton.

It is also incorrect to assert as CMA does that the Administration's proposal assumes all chemicals are hazardous. The feedstock/raw material fee system does assume, however, that many chemicals are hazardous. For this reason the fee is aimed at a specific set of hazardous inorganic chemicals—those which are themselves hazardous, are frequently spilled or found in hazardous waste disposal sites, or form the basic building blocks of the thousands of chemicals found in these sites. As for the fee on petrochemical feedstocks, many organic chemicals and their by-products in the halogenated hydrocarbon, pesticide, and aromatic categories are known to be extremely hazardous. Experience to date tells us that chemical relatives of known problem chemicals and their by-products are likely to pose problems. The number and volume of organic chemicals which are not hazardous or likely to be hazardous is relatively small. Also, the complexity of the organic chemical industry would make it extremely difficult to pick and choose among organic chemicals in determining which feedstocks or organic chemicals to impose a fee on.

Since the feedstock fee applies to all organics, costs will be passed on equally to consumers and will result in no dislocations, process changes or plant closings. Thus, whatever slight inequity might exist in theory, it will have virtually no practical effect. If it chose, Congress could further assure against any potential inequities by establishing an exemption from the fee for generators who could show that they neither used a hazardous substance in production, produced a hazardous substance, or generated a hazardous waste. The principle of collecting a fee from all those who initiate commerce in or generate a potentially hazardous material (oil and other chemicals) was embodied in the "Superfund" bills considered by both the House and Senate in the last Congress. It is in no way a penalty but, rather, a recognition that those segments of industry and consumers who most directly benefit from this commerce should share the primary responsibility for necessary public health and environmental protection which results from this commerce. The fee system incorporated in the Strip Mining Reclamation Act adopted this principle and uses it to pay for the reclamation of inactive and abandoned mines.

In summary I hope you will give careful scrutiny to the various views on this legislative issue before you. We have made significant progress in dealing with chemical incidents, but more needs to be done. We must have comprehensive coverage to fill in the many gaps not covered by our current spill control and hazardous waste disposal programs. But authority to protect the environment and public health and compensate damages needs a fee system capable of financing these actions. Without both, the legislation can accomplish little. This Committee has been a pioneer in enacting environmental legislation and the proposals before you represent the next step in finally dealing with one of the most serious environmental and health hazards in our society today.

Sincerely yours,

DOUGLAS M. COSTLE.

THE WHITE HOUSE,
Washington, D.C., June 13, 1979.

HON. WALTER F. MONDALE,
President of the Senate,
Washington, D.C.

DEAR MR. PRESIDENT: Today I am transmitting legislation to address some of the most significant environmental and public health problems facing our Nation. The problems which the legislation is designed to address are extremely serious. Recent months have focused public attention on a series of past improper hazardous waste disposal incidents such as the tragedy of Love Canal, New York. This case clearly demonstrates the unacceptable costs of improper hazardous waste disposal which may accrue from other incidents such as: contamination of surface and ground waters including drinking water supplies; staggering financial costs of cleaning up and containing wastes; and acute poisoning, carcinogenicity, mutagenicity, and promotion of miscarriages and birth defects.

The proposed legislation is a comprehensive program with the financial responsibility shared by Federal, State and local governments as well as industry. For spills of oil or hazardous substances, the legislation establishes a comprehensive and uniform system of notification, emergency response, enforcement, liability and limited economic compensation for such incidents. For uncontrolled sites, the proposed legislation would establish essentially the same program but without economic compensation. This comprehensive program would be implemented by: requiring notification of spills and the presence of uncontrolled hazardous waste disposal sites; empowering the Federal Government to clean up and mitigate pollution in those incidents where the liable parties do not respond adequately or cannot be quickly identified; enforcing higher standards of care in the handling of oil, hazardous substances and hazardous wastes including recovery from liable parties of governmental response costs and economic compensation; and providing compensation for the economic damages sustained by innocent victims of spills.

The States have a significant role in implementing this legislation. Although the proposed legislation authorizes Federal action in emergency situations, the States are expected to provide financing for both the short-term and long-term containment of releases from hazardous dumpsites.

The legislation provides a major innovation in the manner we approach environmental rehabilitation. In particular, those elements of the private sector which produce hazardous chemicals will share, along with the Federal and State governments, in the financial responsibility for meeting the goals of the legislation through a system of fees.

The legislation provides for a mid-term evaluation. Within three years of enactment a report will be submitted to the Congress which would include experience to date in implementing the legislation; the extent, if any, of the critical uncontrolled sites problem; projected funds required for spill response; extent of State participation; and recommendations for statutory modification in such areas as fee structure, fund operation, liability limits, and financial responsibility limits.

It has become abundantly clear over the past several months that exposure of humans and the environment to dangers from spills of oil, hazardous substances and hazardous wastes and from releases at uncontrolled hazardous waste disposal sites are two of the most pressing environmental problems facing the Nation. I believe that the proposed legislation represents a comprehensive and effective approach for protecting people and the environment from such incidents. I am hopeful that this proposal will receive prompt consideration and speedy enactment. The health of the public and the environment cannot afford less.

Sincerely,

JIMMY CARTER.

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HEARINGS

The Committee held 11 days of hearings on S. 1480. The Administration provided witnesses from the Environmental Protection Agency on March 28, 1979, and again on June 20. The U.S. Department of Justice also presented testimony at a joint subcommittee markup on April 15, 1979.

On March 28 the Committee also received testimony from chemical contamination victims from Niagara Falls, New York and Jamesburg, New Jersey; from State environmental and health officials; and from a representative of the seafood processing industry.

On March 29 the Committee received testimony from industrial representatives; from a chemical engineer; and from Senator Jacob Javits and Representative John LaFalce of New York.

On May 18, Senator Daniel Patrick Moynihan of New York chaired a field hearing in Niagara Falls, New York, and received testimony from local government officials, local chemical industry representatives, Love Canal residents, medical experts and local citizens.

On June 21, the Committee received testimony from State officials from New York, Kentucky, New Jersey, and Michigan; and from Senator Bill Bradley of New Jersey.

On June 22 Senator John Culver of Iowa, chaired a field hearing in Charles City, Iowa, and received testimony from State and local officials, a representative of the EPA's Region VII office; health and environmental witnesses; and a producer of chemical products.

On June 29, Senator John Chafee of Rhode Island chaired a field hearing in San Francisco, and received testimony from West Coast State officials; from local educators, from witnesses of environmental groups; and from representatives of the oil and insurance industries.

On July 19 and 20, the Committee received testimony from industrial, environmental and public health witnesses; from a representative of the National Solid Waste Management Association, as well as from public officials from New Jersey and New York.

On September 6 and 7, the Committee received testimony from additional industrial, environmental, legal and health witnesses.

The Subcommittees on Environmental Pollution and Resource Protection held 12 days of markups on S. 1480. The Full Committee held 5 days of markup on the reported legislation.

ROLLCALL VOTES

Pursuant to section 133 of the Legislative Reorganization Act of 1970, and the Rules of the Committee on the Environment and Public Works, rollcall votes shall be included in this report if not announced at the time such vote was taken.

There were three rollcall votes of the Committee during deliberations of S. 1480.

S. 1480 was ordered reported by a vote of 11–1. Senators Bentsen, Burdick, Chafee, Culver, Domenici, Gravel, Hart, Mitchell, Moynihan, Randolph, and Stafford voted in the affirmative with Senator Simpson voting in the negative.

Evaluation of Regulatory Impacts

In compliance with section 11(b)(1) of Rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation of the regulatory impact of the reported bill.

S. 1480 is not a bill to regulate environmental releases. It creates no new regulatory standards or limits on releases, and it does not require any party to obtain a license, permit, or other authorization, or to fill out any application forms. The bill does not significantly add to the regulatory authority under existing laws, or create a significant impact upon the privacy of individuals.

There is a statutory requirement for notification of the government of any release of a hazardous substance other than a federally permitted release, and of the location of any disposal sites. Otherwise, those regulations which are required generally deal with the administration of governmental programs or the consideration of claims, and not the regulation of individual action.

Cost of Legislation

Section 403 of the Congressional Budget Act of 1974 requires the preparation of a cost estimate by the Congressional Budget Office for legislation reported from Committee.

A complete analysis of the cost of the bill was not available at the time of the printing of this report. Such analysis will be available before the bill is considered by the Senate.

SUPPLEMENTAL VIEWS OF SENATOR STAFFORD

This bill represents not merely an attempt to grapple with the broad health and environmental concerns raised by chemical poisons, but also an attempt to responsibly address the unique problems raised in proof of chemically-caused disease. Numerous commentators have recognized the problems which arise in the context of proving causation when the injury is a disease. Some of these are quoted in the body of this Report. Two others are worthy of quotation in these views, because they are among the commentators who have suggested an approach similar to that taken by the Committee.

> It is not difficult to conclude that the question of causation has been wrongly decided in many of the cases in the cancer field; if the model is a valid representation of scientific cancer causation, then judges frequently deviate from the proper standards of causation. Part of the problem is the nature of an adversary determination of facts: plaintiff presents his expert witnesses, defendant his, and the fact-finder decides whom to believe.
>
> One problem (of causation in the toxic substances cases) could be alleviated if judges would accept as probative testimony that a substance "could have caused" a cancer, and realize that in scientific terminology, such testimony is more than just speculative. Counsel could also raise the level of the causational discussion by introducing studies and scientific papers as evidence, rather than merely relying on "expert" testimony.
>
> Perhaps some problems could be alleviated if state courts adhered to a rule that exposure of a plaintiff to a carcinogen for a period of time reasonable for carcinogenesis shifted the burden of proof of causation to defendant.

"Judicial Attitudes Toward Legal and Scientific Proof of Cancer Causation," 3 *Columbia Journal of Environmental Law 344* (1977).

* * * * * * *

> (T)he flaw with an individualized approach in the disease setting is that the actual cause of individual manifestations of a disease is usually impossible to determine. Perceptions of work-disease relationships normally rest upon statistics, which are of little use in judging the condition of a specific worker, and courts traditionally shun the use of statistical data since such evidence cannot prove that employment conditions produced an individual's illness. Indeed, even though evidence may show that a high percentage of the incidence of a disease results from the work environment, each individual could lose his case for lack of specific proof of causation. To avoid this outcome, rebuttable presumptions created leg-

islatively or administratively could be employed. Thus, where strong support for a work-disease connection existed, the disease could be presumed to be occupational in the absence of an individual showing that factors other than the workplace produced an illness.

The use of presumptions, which allows application of the best available evidence of work-disease linkages, would simplify the problems of proof that victims of occupational disease would face under new compensation schemes.

"Compensating Victims of Occupational Disease," 93 *Harvard Law Review* 916 (1980).

The medical causation provisions contained in the reported bill were debated at greater length and with greater emotion than any others in S. 1480. They underwent four successive public re-formulations and untold non-public ones. With each improvement, the confidence of the Committee in the provisions increased. What the reported bill contains are solid, workable and responsible changes that will permit innocent victims to recover when they ought to.

The Committee did not go as far as some had urged or as far as perhaps it should have. Persuasive arguments can be made for shifting the actual burden of proof to a defendant once a plaintiff demonstrates certain facts. The scientific and medical studies demonstrating what injuries a particular chemical causes (or does not cause) are in the file cabinets of those who produce or handle them, not the public at large.[1] Indeed, the industries guard these studies against public disclosure with a vigilance rarely seen elsewhere. In addition, the patterns of distribution—and hence exposure—are best known to defendants, as are a hundred other facts critical to each case.

Despite these arguments, the Committee concluded that this was an effort best begun with a small step rather than a large one. Hopefully, however, the State legislatures and courts which have already chosen to go further than this bill in their own particular states will continue accumulating the experience with which the Congress can judge the wisdom of going beyond the modest changes in this bill.

EVOLUTION OF S. 1480'S LANGUAGE

When S. 1480 was introduced, it contained the original attempt to deal with the difficult problem of proving causation. That original language provided as follows:

(*c*) *Notwithstanding the ordinary requirements for proof of cause in fact or proximate cause of damage, injury, or loss a person liable*

[1] Kepone, for example, was synthesized by the Allied Chemical Corporation in 1951 and patented in 1952. Allied contracted for the first studies on the chemical's effects in 1958. Beginning in 1961, studies with laboratory animals indicated that Kepone adversely affected nervous and reproductive systems. An unpublished corporate document dated July 1, 1961, indicated that Kepone induced hepatocellular carcinomas. Kepone became a publicly recognized name in 1975 and afterwards, following disclosure of the massive contamination of the James River. But the studies performed on Kepone were not used to register the substance as a pesticide and, therefore, had been kept confidential before then.

Similarly, dibromochloropropane (DBCP), a chemical widely used to control nematodes came into use in 1955. It was banned by the Environmental Protection Agency in 1979, three years after it was found to have caused sterility in workers.

In the late 1950's two California research scientists, working independently of each other, reported that DBCP caused a significant decrease in sperm count and other testicular effects in laboratory animals. Some of this private research was supported by Shell Chemical and Dow Chemical, the two principal manufacturers of DBCP. The studies indicating that DBCP could have adverse health affects were not made public until 1961.

under this section for any discharge, release, or disposal of any hazardous substance shall be liable for all medical expenses under subsection (a)(2)(F) of this section if a reasonable person could conclude that such medical expenses and the injury or disease which caused them are reasonable related to such discharge, release, or disposal, including, but not limited to, the consideration of statistical correlation and the increase of incidence of such injury or disease in the exposed population above that which is otherwise statistically probable. The inability of a claimant to demonstrate (1) the particular identity of the substance which caused the injury or disease, (2) the particular source of such substance, (3) the pathway of such substance enroute to the injured party, or (4) an explanation of the etiology of the substance in the injured party shall not bar recovery.

As the hearings on S.1480 progressed, it became apparent that the original medical causation language required clarification and refinement. Therefore, a second version of the provisions was developed and included in "Staff Working Paper Number 1". The second version of the language provided for the following:

"(*c*)(*1*)(*A*) *In any proceeding involving a claim for medical expenses alleged to have resulted from a discharge, release, or disposal of hazardous substance, the trier of fact shall consider as relevant and material (i) information as to an increase of incidence of such injury or disease in the exposed population above that which is otherwise probable, (ii) epidemiological studies (without regard to the size of the sample), (iii) animal studies, (iv) tissue culture studies, (v) microorganism culture studies, and (vi) other laboratory or toxicologic studies tending to establish the likelihood that a release of such substance caused or contributed to any injury or disease of the type of class complained of.*

(*B*) *Uncertainty of medical or scientific evidence with regard to establishing—*

(i) the specific substance which caused the injury or disease;

(ii) the particular source of such substance,

(iii) the pathway of such substance en route to the injured party, or

(iv) the etiology of the substance in the injured party, shall bear only on the weight of said evidence, as determined by the trier of fact.

(*2*)(*A*) *Notwithstanding the ordinary requirements for proof of cause in fact or proximate cause of damage, injury, or loss, a discharge, release, or disposal shall be presumed to have caused the injury or disease complained of and the associated medical expenses if a plaintiff seeking damages under this subsection offers evidence tending to establish a reasonable likelihood that (i) the injured or diseased party was exposed to a hazardous substance found in a discharge, release, or disposal for which the defendant may be held liable under this section, and (ii) such a hazardous substance or such a discharge, release or disposal could have caused the injury or disease of the class or type for which medical expenses are sought.*

(*B*) *The person or persons liable for such discharge, release or disposal shall be responsible for all medical expenses under (a)(2)(F) of*

this section unless such person establishes that there is no reasonable likelihood that the injury or disease for which medical expenses are sought resulted from said discharge, release, or disposal."

During formal markups by the Subcommittees on Environmental Pollution and Resource Protection, it became apparent that even this perfected language required yet another revision. With the help of practicing lawyers, health officials, and professors of law, a third version was drafted and accepted. It became a part of the bill taken before the full Committee. This language, and the legislative history which was proposed to accompany it, read as follows:

"*(c)(1) Liability for Medical Expenses.—A person liable for the discharge, release, or disposal of any hazardous substance under this section shall be liable for medical expenses as defined in subsection (a)(2)(F) of this section where such expenses were incurred in the treatment of injury or disease which such discharge, release, or disposal caused or to which it significantly contributed.*

"*(2)(A) Relevancy Exclusion.—In connection with any claim for medical expense under paragraph (1) of this subsection, the court may admit as relevant to the issue of causation evidence tending to establish a likelihood that the hazardous substance in question causes or contributes to injury or disease of the sort claimed to have been suffered by the claimant, including, but without limitation, evidence indicating (i) an increase of incidence of such injury or disease in the exposed population above that which is otherwise probable, (ii) results of pertinent epidemiological studies (without regard to the size of the sample), (iii) results of animal studies, (iv) results of pertinent tissue culture studies, (v) results of pertinent microorganism culture studies, and (vi) results of pertinent laboratory or toxicologic studies.*

"*(B) Prejudice, Confusion, and Waste of Time Exclusions.—Inconclusiveness of the medical or scientific evidence described in subparagraph (A) as to—*

"*(i) the specific substance which caused the injury or disease,*

"*(ii) the particular source of the substance,*

"*(iii) the pathway by which the substance reached the claimant,*

or

"*(iv) the etiology of the substance in the claimant shall affect the weight of such evidence as determined by the trier of fact, and not the admissability of such evidence in the case of an objection on the grounds that it creates prejudice, confusion, or waste of court time.*

"*(3)(A) Presumption of Cause.—In connection with any claim for medical expenses brought pursuant to subparagraph (1) of this subsection, where the claimant introduces evidence sufficient to enable the trier of fact to find (i) that the claimant was exposed to a hazardous substance found in a discharge, release, or disposal which the defendant caused or to which he contributed, and (ii) that there exists a reasonable likelihood that exposure to such substance causes or significantly contributes to injury or disease of the class or type which the claimant claims to have suffered, then it shall be presumed that the defendant caused or significantly contributed to that injury or disease.*

"*(B) The presumption defined in subparagraph (A) of this subsection affects the burden of persuasion, and shifts to the defendant*

the burden of persuading the trier of fact by a preponderance of the evidence that claimant's exposure to the substance in question did not cause or significantly contribute to the injury or disease which the claimant claims to have suffered."

The legislative history which was proposed to accompany the above draft read as follows:

Medical Causation

PROPOSED LEGISLATIVE HISTORY

For the limited purpose of recovering out-of-pocket medical expenses and rehabilitation costs, an injured party may utilize the methods of proof and evidence contained in subsection (c). To recover for other injuries (or for costs other than out-of-pocket medical and rehabilitation), an injured party must utilize the methods of proof and evidence ordinarily applied by the courts in his or her jurisdiction.

Paragraph (1) states what the claimant must prove in order to recover: that there was a release of a hazardous substance; that the defendant was liable for the release; that the release caused or contributed to the claimant's injury; and that his or her medical expenses were incurred in the treatment of the injury or disease. The claimant may meet part of this burden of proof by utilizing the presumption created in (c)(3)(A). To invoke this presumption, the claimant must introduce enough evidence to permit a trier of fact to conclude, first, that the claimant had been exposed for a sufficient period of time to a hazardous substance in the release for which the defendant is liable under this Act; and, secondly, that there is a "reasonable likelihood" that the sort causes or contributes to a disease or injury of the sort complained of. A plaintiff who meets this burden will benefit from a presumption that the defendant caused or significantly contributed to his or her disease or injury.

If the plaintiff fails to introduce enough evidence to permit a trier of fact to arrive at these conclusions, then the presumption will not be created. If the claimant does meet this burden, however, it then falls to the defendant to introduce counter-proof. Such counter-proof could be so persuasive that a defendant were entitled to a directed verdict in his favor. Failing that, however, the question of cause is submitted to the jury (or other trier of fact) for determination.

Subparagraph (c)(2)(A) permits the use of certain types of medical or scientific evidence in proof of the causal relationship. This is included because some courts have held that, as a matter of law, animal studies, tissue studies and the other types of evidence described in the subparagraph are not probative on the issue of disease causation in humans. Of course, a court must always make the initial determination of whether a specific item of evidence is sufficiently probative to be admitted. Subparagraph (a) does not lessen the obligation of the court to do this. It is difficult in any event for the Congress

to control how court will consider evidence. The subparagraph does, however, represent the Congressional conclusion that animal studies, tissue studies, microorganism culture studies and the like may, as a class, be relevant.

Subparagraph (c)(2)(B) addresses a different but related problem. In some cases, evidence of the sort described in subparagraph (A) may be sufficiently probative to be admissible, but nevertheless be excluded on other grounds. These groups of exclusion are usually described as prejudice, confusion and waste of time. These grounds of exclusion are created by uncertainties in the evidence as to specific points of proof. Paragraph (B) enjoins a court to admit the evidence despite these uncertainties and permit the jury to take them into account in determining the evidence's credibility. Again, as in subparagraph (A), it is not intended that evidence be admitted which is not probative. An item of evidence which is so uncertain as to be of no probative worth would not be relevant and, hence, be excluded. This question of whether an item of evidence is sufficiently probative to be admitted is to be determined by the court, just as it is under current law. Once determined to be probative, however, an item should not be excluded merely because some uncertainty in some particulars demands extra effort on the part of the trier of fact to overcome prejudice, sort through confusion, or just spend more time. The expenditure of such additional time and effort is warranted because in many cases this evidence may be all that is available.

FINAL COMMITTEE ACTION

At the full Committee level, considerable attention was focused on this provision. After extended discussions between individual members, perfecting amendments were offered by Senators Burdick, Mitchell, and Domenici. These were adopted on June 5, 1980. These amendments are shown in the following form: Language to be omitted is enclosed in brackets; new language is shown in roman.

(c)(1) LIABILITY FOR MEDICAL EXPENSES.—A person liable for the discharge, release, or disposal of any hazardous substance under this section shall be liable for medical expenses as defined in subsection (a)(2)(F) of this section where such expenses were incurred in the treatment of injury or disease which such discharge, release or disposal caused or to which it significantly contributed.

(2)[(A)] RELEVANCY EXCLUSIONS.—In connection with any claim for medical expense under paragraph (1) of this subsection, the court may admit as relevant to the issue of causation evidence tending to establish a likelihood that the hazardous substance in question causes or contributes to injury or disease of the sort claimed to have been suffered by the claimant, including, but without limitation, evidence indicating (i) an increase of incidence of such injury or disease in the exposed population above that which is otherwise

probable, (ii) results of pertinent epidemiological studies (without regard to the size of the sample), (iii) results of pertinent animal studies, (iv) results of pertinent tissue culture studies, (v) results of pertinent micro-organism culture studies, and (vi) results of laboratory or toxicologic studies.

[(B) PREJUDICE, CONFUSION AND WASTE OF TIME EXCLUSIONS.—Inconclusiveness of the medical or scientific evidence described in subparagraph (A) as to—

[(i) the specific substance which caused the injury or disease,

[(ii) the particular source of the substance,

[(iii) the pathway by which the substance reached the claimant, or

[(iv) the etiology of the substance in the claimant shall affect the weight of such evidence as determined by the trier of fact, and not the admissability of such evidence in the case of an objection on the grounds that it creates prejudice, confusion, or waste of court time.]

(3)(A) PRESUMPTION OF CAUSE.—In connection with any claim for medical expenses brought pursuant to subparagraph (1) of this subsection, where the claimant introduces evidence sufficient to enable the trier of fact to find (i) that the claimant was exposed to a hazardous substance found in a discharge, release, or disposal which the defendant caused or to which he contributed, and (ii) such exposure was in a quantity or for a duration with respect to which there is a reasonable likelihood that it is sufficient to cause or significantly contribute to injury or disease or the class or type of which the claimant complains, and (iii) *that there exists a reasonable likelihood that exposure to such substance causes or significantly contributes to injury or disease of the class or type which claimant claims to have suffered, then it shall be presumed that defendant caused or significantly contributed to that injury or disease.*

[The presumption defined in subparagraph (A) of this subsection affects the burden of persuasion, and shifts to the defendant the burden of persuading the trier of fact by a preponderance of the evidence that claimant's exposure to the substance in question did not cause or significantly contribute to the injury or disease which the claimant claims to have suffered.]

(B) The presumption defined in subparagraph (A) of this paragraph affects only the burden of going forward with the presentation of the case. Nothing in this paragraph shall affect the burden of proof which shall remain with the claimant in accordance with rule 301 of the Federal Rules of Evidence.

Adopting these amendments was intended to achieve the following:

First, by striking the words "a likelihood" in subparagraph 2(A) the language in the reported bill eliminates any inference that irrelevant evidence was admissable.

Second, by striking subparagraph 2(B), the action eliminates any unintended damage to rule 403 of the Federal Rules of Evidence. In cases involving toxic or hazardous substances, courts should admit evidence which might be excluded in other types of cases on the grounds of prejudice, confusion or waste of time. Often the practical consequence of excluding such relevant evidence on these grounds is to deny the plaintiff any opportunity to prove his case. The policy in favor of admitting these types of evidence is expresssed in legislative history rather than statutory language because of concerns that the latter course might create difficulties in parts of the judicial system unrelated to the purposes of this legislation.

Third, by elaborating on "exposure", the language now more clearly defines what burden the plaintiff must meet before the presumption is created.

Fourth, by amending the nature of the presumption, the amendment eliminated the burden of disproof which earlier versions would have placed on the defendant. The plaintiff is still to enjoy the benefit of a presumption running in his favor, but the presumption is not related to the burden of persuasion.

ROBERT T. STAFFORD.

MINORITY VIEWS OF SENATOR ALAN K. SIMPSON

All of the Members of this Committee have devoted a great deal of time and sincere effort in reviewing this measure now before us—a measure which has undergone a curious metamorphosis from a "staff working draft" to a committee bill within a few short days.

The interactions and negotiations between the Committee Members are always most stimulating. I particularly commend the cooperative efforts of Senator Culver and the courtesy and cooperation that he has extended to me. As always, our most fair and able Chairman, Jennings Randolph, has been the one to spread the "oil on troubled waters" whenever the discussions became more spirited than necessary! Also the able Ranking Minority Member, Senator Stafford, deserves praise in exercising that fine ability of his to reconcile and then to readdress the issues.

I also note the participation of the newest Member of our Committee, Senator George Mitchell. He is a fine addition and brings to this Committee a remarkable grasp of the law and a judicial temperament that will serve as well. I am greatly looking forward to my future deliberations with him in this arena.

The exceedingly active participation by Members of the Full Committee during the last few days of our markup process has done much to correct some of the serious shortcomings of the staff draft as well as to limit several other areas where matters were proposed which were proposed which could certainly be best described as "overreaching."

I have tried to be constructive in the proposing of amendments and appreciative of the Committee's attention in listening to my explanation of those amendments. It does alarm me to see the tendency, with but a sweep of the drafters' pen, to simply brush off on the floor many of the rules of evidence which have been so closely crafted and observed in our procedural life as lawyers. I will share with you that those rules of evidence are indeed frustrating. I know. I would be in the midst of a jury trial and suddenly with a ruling from the judge, would be unable to present a significant part of my case. That is a learning experience. I think it is critically important for the capable lawyer and non-lawyer members on the staff to remember well in your future years in Washington, that you must always consider the full impact of your efforts upon the trial bar, the judiciary and the citizens. The rules are there for a purpose. They have come "through the fires" and been tempered by litigation. They do work. Basic reason and common sense should be the impetus behind their revision—not simply frustration.

I have stated publicly on many occasions that I was fully prepared to work for the passage of an abandoned dump site act to deal with the issue of "orphan dumps." I would support any measure that would provide the direction and mechanism for the cleaning up those

hazardous waste sites in this country. These are the potential killers in every sense of the word. I would hope that we might still consider adoption of a system to inventory the inactive hazardous waste sites and then allow the states to select the priorities for those areas that require immediate clean up and correction. The Senate should also examine partial state financing of that effort.

My fundamental objections to this legislation—apart from the fact that it really does very little to focus on abandoned waste sites or even provide for a national inventory of the most hazardous sites in this country—is that it fails to meet the test of reasonable legislation in four principal areas.

I am disturbed about the creation of what I refer to as the "Federal Toxic Tort." The system of liability which is proposed by the bill is unique—and bizarre—for it establishes a limited federal cause of action for those who are injured by releases of hazardous substances.

Under this bill, the ability of injured third parties to find redress through the federal courts is incomplete and unsatisfactory. The forum for filing an action by injured parties is split between the state courts and the federal courts. Under this legislation, it is possible to bring an action in federal court for claims of general damages or medical costs. However, that portion of the cause of action that would allow compensation for an individual's special damages, mental distress, and similar damages must be tried in state courts or in federal courts applying state law. This is a serious failing and I believe it will prove to be a substantial impediment for those who wish to seek effective private legal representation.

I have little doubt but that this "split cause of action" will prove to be a most attractive system of procedure for those who feel that the weight of the Justice Department should be brought heavily to bear against potentially liable parties due to the federal subrogation aspects of private claims for which compensation has already been awarded from the "superfund." I am not ready to take that step and I believe that we have done serious injury to traditional notions of relying upon individuals to seek their own private legal representation as the means for seeking recovery under state common law.

The problems which the splitting of the injured party's cause of action would present in such areas of civil procedure as res judicata, collateral estoppel, conflict of laws, and bar and merger have been wholly overlooked in the committee's efforts to fashion this new federal remedy.

I also feel that making this federal alternative available as a partial remedy will seriously retard the development of the common law in the area of injury from hazardous wastes.

Secondly, there has been very little demonstration made in the record as to the financial ability of the victim compensation fund to address the claims which will be honored. The direction of Committee amendments recently offered in this area has been to expand the scope of compensation that may be awarded and to include such items as medical injuries, loss of income, damage to personal and real property, the rehabilitation of natural resources—and the shopping list is certain to grow with succeeding sessions of Congress.

As a recent Member of the Senate, I contend that one must only look at the history of our nation's social security system to realize that whenever Congress creates any form of compensation fund, the urge to add additional items of coverage for payment seems to be irresistible. The financial integrity of the fund has not been demonstrated under any evidence I have heard and the move to add additional grounds for awarding compensation will surely destroy its substance and drain it away.

Thirdly, the fee system is seriously deficient and inequitable. I feel that the proponents of the legislation are wholly unconcerned about the financial integrity of the fund when they propose to lay on a fee—or actually a tax—upon the chemical feedstock and oil industries of this country as a mean of generating revenue for the fund. Certainly, the tax is really a liability system in itself. "Adjustments" are intended to be made in the fee levy on feed stocks based upon the history of payment from the fund, with no restraint on the ability to transfer the financial burden for victim compensation to the private sector. That procedure does not provide the proper incentive for sound administration that such a program must have if it is to work efficiently and fairly.

I remain most concerned that the fee system will be imposed upon feed stocks without regard to whether those materials are ultimatly used in the process or manufacture of hazardous substances.

This is a grave mistake and an inequity. A fee on waste generation or disposal would certainly be a sounder stroke of public policy.

Also, I do not read the fee structure as creating or providing any positive incentive for high temperature incineration of wastes or other proven recycling efforts. These types of disposal efforts would help assure that hazardous substances do not become toxic wastes in the first instance.

And finally—and most significantly—I find that this bill is a damning admission that the last decade of sweeping environmental legislation which has been processed by this Committee and the Congress has failed to provide the level and degree of environmental quality and safety to public health that was intended to be secured—or that the American people believed had been adopted. Those early legislative efforts were adopted measure by masure and piece by piece—and came to form a solid wall of burdensome federal regulation that preempted state and local prerogatives and controls on nearly every issue.

The proponents of this legislation now seem intent to preempt the common law of the states, as well as the statutory enactments, and have come down to the "final solution" which is apparently to simply rely on what jurists of the 18th Century referred to as "the brooding omnipresence of the law" as being the strongest environmental control measure. This is not a good way to legislate. American businessmen and citizens deserve better.

ALAN K. SIMPSON.

ADDITIONAL VIEWS OF SENATORS DOMENICI, BENTSEN, AND BAKER

We did not oppose reporting out S. 1480 because we need a mechanism to clean up the old hazardous waste sites that are causing harm to the environment and to individuals. However, we do take issue with the approach that S. 1480 takes in substantially changing existing common law (in some cases retroactively) and establishing a liability scheme predicated on such a broad definition of what constitutes a hazardous substance.

The Committee on Environment and Public Works was faced with the option of either developing a narrow response-oriented bill or establishing a broadly-structured liability scheme to address this very complicated issue. S. 1480, as reported, chose the latter approach and makes manufacturers, transporters, and disposers of hazardous substances strictly, jointly, and severally liable for releases and spills. While the Committee accepted over twenty-five modifying amendments during the mark-up, many concerns about S. 1480 remain unresolved.

The bill creates new judicial standards for presentation of evidence and pursuing a cause of action, the combined effects of which are unknown and untested. S. 1480 changes State tort law by developing a new Federal tort law which allows individual claimants to enter court more easily and to proceed with a suit despite a paucity of evidence. This is a creation of a Federal cause of action which constitutes an intrusion into judicial processes that have been formulated over hundreds of years of common law evolution and procedural development upon which industries and businesses have relied in assessing their exposure to liability and the availability of insurance when they engage in certain industrial activities. Specifically, the bill significantly reduces the need for a plaintiff to establish a casual link between a hazardous substances and an alleged injury.

The difficulty in pinpointing the cause of a disease on exposure to a single chemical is well-documented. For example, in the case of cancer, a multitude of factors could play a role in the contraction of the disease. Those factors include genetics, personal habits (such as smoking and diet), occupational exposures and environmental exposures. On Monday, June 30, 1980, the Washington Post ran an editorial entitled "The Chemical Questions" which raises the difficult questions of chemical exposure and the inexact science of tracing actual exposure to an actual disease. The editorial discusses the case of Love Canal and the fact that despite numerous studies, we are no further along in linking the exposure to the chemicals in the canal with the actual illnesses being experienced by the residents of Love Canal.

On June 13, 1980, Science magazine ran an article on a widely-publicized study that was done on chromosome damage among the

residents of Love Canal. The Science article points out the serious deficiencies of that study and dismisses the findings contained in the study as unsubstantiated.

This discussion is not intended to pass judgment on the illnesses at Love Canal, but rather to bring into perspective the difficulties we face in attempting to sort through the synergistic effects of a number of factors in everyday life in isolating the source of many illnesses which are occurring more and more frequently.

The bill also creates a new cause of action with strict liability. Strict liability, in conjunction with a Federal cause of action, is a dramatic step in a field greatly deficient in scientific and medical knowledge.

If the Congress thinks that the standards of medical proof are too difficult to allow many legitimate cases to be brought before the courts under present law, then perhaps we should consider setting up a Commission representing among others, the American Bar Association, to assist the Congress in drafting a model code that could be presented to the States for adoption. This is more in line with other legal issues that traditionally fall within the jurisdiction of the States, but where the Federal government has stepped in to provide guidance.

The new liability scheme established in S. 1480 requires further refinement. The definition of "hazardous substance" is exceedingly broad and brings too wide an array of businesses under the umbrella of engaging in an "ultrahazardous activity", thus creating strict liability for their operations. The only available defenses under the bill are an Act of God or an Act of war. As a consequence, what S. 1480 does is to simply throw out negligence and nuisance as legal concepts relating to the ongoing activities of America's entire industrial base.

The effects of such a doctrine are clear. For example, in the case of a mining operation where certain chemicals are used in the extraction process, the owner or operator of that mine would have no defenses available to him if an unidentified third party, unconnected to his operation, came onto the mine site and mishandled those chemicals. He would find himself facing a barrage of suits in which he was being hed strictly liable for all of the damages regardless of whether or not he had any control over the situation.

Furthermore, S. 1480 goes one step further by imposing joint and several liability. While that concept was modified by mandating apportionment in the case of an insignificant contributor, many concerns remain. For one, an insignificant contributor is not defined. Equally troubling is the fact that the bill does not provide for apportionment in the case where a significant contributor who, for example, was responsible for 60% of damages must bear the full 100% of the costs because the other contributors cannot be found or identified or are found to be insolvent.

The issue of applying the new standards retroactively remains a troubling one. While the Committee accepted a Domenici amendment to limit the scope of the retroactivity, the issue remains unresolved. To expect individual businesses to absorb the costs imposed by a doctrine not consistent with American standards or jurisprudence is not only unreasonable, but may be unconstitutional.

When the bill was discussed in Committee, it was described as a law that would assist the innocent, individual claimant in seeking damages

against giant corporations. Yet, this bill also creates the option for these same claimants to go to the Fund, seek damages, receive them and subrogate their claims to the Federal government. The Federal government would then litigate to recover the money the Fund had paid. Given the difficulties and costs of mounting private claims on these complex technical issues, it seems to us that most claimants would subrogate their rights to the Federal government.

Such a shift in the balance of litigation is significant. The bill no longer would represent the drawing of an equitable balance between private litigants. Rather, it would create a new avenue for the U.S. Department of Justice to use its massive resources to sue the private sector. Large and small businesses would be treated alike; both would face the power of the Justice Department.

This scenario is particularly perplexing in view of the statement reported in the press of a Justice Department employee who has been directly involved in the development of this legislation. He stated, "government is perfectly prepared to punish the innocent for the sins of the guilty." This position does not square with our sense of justice or with our view of the role of government. When we sought solutions to the problems of hazardous substance exposure, it was not our purpose to unleash a legion of Federal attorneys on the private sector. Rather, we sought to protect unsuspecting victims from unanticipated releases of hazardous substances from abandoned and inactive waste sites and from spills. We sought to assure these citizens that they would not have to sit idly watching government and business argue over who has the responsibility for cleaning up and containing a release that threatened them. We recognized that liability for such response actions can create incentives for responsible parties to act. Now we must question whether S. 1480 is creating liability that will adversely affect the decisionmaking process of American business.

The liability provisions of this bill alter two factors that affect business decisions: (1) the potential exposure of the company's assets to loss and (2) the availability of insurance to protect against these losses. The availability of insurance is particularly crucial to small and medium-sized businesses. However, insurance availability is largely dependent on developing the probabilities of the conditions under which payments would be made. Once these probabilities are defined, the availability, the coverage and the cost of insurance can be established. Thus, the analysis of both asset exposure and insurance availability largely hinges on the predictability of liability for a specific decision. Both of these factors appear to be adversely affected by the provisions of S. 1480.

In general, the development and application of such concepts as strict liability, ultrahazardous activities, and joint and several liability to extensive third party damages take place over an extended time frame. During this period, asset risk assessment and insurance probabilities can be developed. Decisions can be made in an orderly manner. One result of S. 1480 is that it accelerates the development and application of these complex concepts. In doing so, it prevents the private sector decision-making process from being able to assess it liability risks.

Consequently, it would appear that private sector decisions will have to be made on the worst case that might result from passage of

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the bill. That case would be: (1) the defendant faces litigation brought by the Federal government; (2) he is one of a few or the single defendant in a case where the release was largely caused by another operator; (3) the more significant contributor is insolvent; (4) actions beyond his reasonable control caused the release, precluding his use of the defenses available under S. 1480 (Act of God and Act of war); (5) large third party damages are at issue; and (6) joint and several liability in S. 1480 expose the defendant to the possibility of paying for all of the damages.

Under this scenario, the elements of this bill will push the decisionmaker in directions that will likely lead to adverse consequences for the national economy. Small companies may be forced to close because insurance will be unavailable or too costly. Middle-sized companies will not likely risk their assets for new ventures when faced with these liabilities at existing facilities. This is exactly the case that generated the post-closure liability provision of S. 1480 for closed waste disposal sites. Large corporations, faced with the alternatives of building or expanding facilities in this country or elsewhere, may choose to spend their capital funds in countries with less possibilities of risk. These are economic consequences that this country cannot afford to incur.

We believe that a more reasoned balance can be drawn in this bill. The bill can be focused on response actions that would clean up and contain hazardous substance releases from sites or spills, that would relocate people if necessary or provide them with new water supplies. It could be modified to use Fund monies to pay for selected third party damages. If the legislation were successful in stopping harm from occurring by rapid and effective response, the demand for funds for third party damages would be minimized.

While we continue to support the need for legislation to deal with these problems, we intend to further evaluate the bill in light of our concerns. If there are delays in enacting this legislation, then we would expect Congress and EPA to continue to act on an ad hoc basis on specific situations such as at Love Canal and Memphis, Tennessee.

PETE DOMENICI.
LLOYD BENTSEN.
HOWARD BAKER.

Changes in Existing Law

In compliance with section 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill as reported are shown as follows: Existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman:

Federal Water Pollution Control Act, As Amended

(33 U.S.C. 466 et seq.)

AN ACT To provide for water pollution control activities in the Public Health Service of the Federal Security Agency and in the Federal Works Agency, and for other purposes.

* * * * * * *

OIL AND HAZARDOUS SUBSTANCE LIABILITY

SEC. 311. (a) For the purpose of this section, the term—

(1) "oil" means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil;

(2) "discharge" includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying or dumping, but excludes (A) discharges in compliance with a permit under section 402 of this Act, (B) discharges resulting from circumstances identified and reviewed and made a part of the public record with respect to a permit issued or modified under section 402 of this Act, and subject to a condition in such permit, and (C) continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of this Act, which are caused by events occurring within the scope of revelant operating or treatment systems;

(3) "vessel" means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water other than a public vessel;

(4) "public vessel" means a vessel owned or bareboat-chartered and operated by the United States, or by a State or political subdivision thereof, or by a foreign nation, except when such vessel is engaged in commerce:

(5) "United States" means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Canal Zone, Guam, American Samoa, the Virgin Islands, and the Trust Territory of the Pacific Islands;

(6) "owner or operator" means (A) in the case of a vessel, any person owning, operating, or chartering by demise, such vessel, and (B) in the case of an onshore facility, and an offshore facility, any person owning or operating such onshore facility or offshore facility, and (C) in the case of any abandoned offshore facility, the person who owned or operated such facility immediately prior to such abandonment;

(7) "person" includes an individual, firm, corporation, association, and a partnership;

(8) "remove" or "removal" refers to removal of the oil or hazardous substances from the water and shorelines or the taking of such other actions as may be necessary to minimize or mitigate damage to the public health or welfare, including, but not limited to, fish, shellfish, wildlife, and public and private property, shorelines, and beaches;

(9) "contiguous zone" means the entire zone established or to be established by the United States under article 24 of the Convention on the Territorial Sea and the Contiguous Zone;

(10) "onshore facility" means any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under, any land within the United States other than submerged land;

(11) "offshore facility" means any facility of any kind located in, on, or under, any of the navigable waters of the United States, and any facility of any kind which is subject to the jurisdiction of the United States and is located in, on, or under any other waters, other than a vessel or a public vessel;

(12) "act of God" means an act occasioned by an unanticipated grave natural disaster;

(13) "barrel" means 42 United States gallons at 60 degrees Fahrenheit;

(14) "hazardous substance" means any substance designated pursuant to subsection (b)(2) of this section;

(15) "inland oil barge" means a non-self-propelled vessel carrying oil in bulk as cargo and certificated to operate only in the inland waters of the United States, while operating in such waters;

(16) "inland waters of the United States" means those waters of the United States lying inside the baseline from which the tertorial sea is measured and those waters outside such baseline which are a part of the Gulf Intracoastal Waterway;

(17) "Otherwise subject to the jurisdiction of the United States" means subject to the jurisdiction of the United States by virtue of United States citizenship, United States vessel documentation or numbering, or as provided for by international agreement to which the United States is a party.

(b)(1) The Congress hereby declares that it is the policy of the United States that there should be no discharges of oil or hazardous substances into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Fishery Conservation and Management Act of 1976).

(2)(A) The Administrator shall develop, promulgate, and revise as may be appropriate, regulations designating as hazardous substances, other than oil as defined in this section, such elements and compounds which, when discharged in any quantity into or upon the navigable waters of the United States or adjoining shorelines or the waters of the contiguous zone or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Fishery Conservation and Management Act of 1976), present an imminent and substantial danger to the public health or welfare, including, but not limited to, fish, shellfish, wildlife, shorelines, and beaches.

(B) The Administrator shall within 18 months after the date of enactment of this paragraph, conduct a study and report to the Congress on methods, mechanisms, and procedures to create incentives to achieve a higher standard of care in all aspects of the management and movement of hazardous substances on the part of owners, operators, or persons in charge of onshore facilities, offshore facilities, or vessels. The Administrator shall include in such study (1) limits of liability, (2) liability for third party damages, (3) penalties and fees, (4) spill prevention plans, (5) current practices in the insurance and banking industries, and (6) whether the penalty enacted in subclause (bb) of clause (iii) of subparagraph (B) of subsection (b)(2) of section 311 of Public Law 92-500 should be enacted.

(3) The discharge of oil or hazardous substances (i) into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone, or (ii) in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Fishery Conservation and Management Act of 1976), in such quantities as may be harmful as determined by the President under paragraph (4) of this subsection, is prohibited, except (A) in the case of such discharges of oil into the waters of the contiguous zone or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Fishery Conservation and Management Act of 1976), where permitted under the International Convention for the Prevention of Pollution or the Sea by Oil, 1954, as amended, and (B) where permitted in quantities and at times and locations or under such circumstances or conditions as the President may, by regulation, determine not to be harmful. Any regulations issued under this subsection shall be consistent with maritime safety and with marine and navigation laws and regulations and applicable water quality standards.

(4) The President shall by regulation determine for the purposes of this section those quantities of oil and any hazardous substances the discharge of which may be harmful to the public health or welfare of the United States, including but not limited to fish, shellfish, wildlife, and public and private property, shorelines, and beaches.

(5) Any person in charge of a vessel or of an onshore facility or an offshore facility shall, as soon as he has knowledge of any discharge of oil or a hazardous substance from such vessel or facility in violation of paragraph (3) of this subsection, immediately notify the appropriate agency of the United States Government of such discharge. Any such person (A) in charge of a vessel from which oil or a hazardous substance is discharged in violation of paragraph (3)(i) of this subsection, or (B) in charge of a vessel from which oil or a hazardous substance is discharged in violation of paragraph (3)(ii) of this subsection and who is otherwise subject to the jurisdiction of the United States at the time of the discharge, or (C) in charge of an onshore facility or an offshore facility, who fails to notify immediately such agency of such discharge shall, upon conviction, be fined not more than $10,000, or imprisoned for not more than one year, or both. Notification received pursuant to this paragraph or information obtained by the exploitation of such notification shall not be used against any such person in any criminal case, except a prosecution for perjury or for giving a false statement.

(6)(A) Any owner, operator, or person in charge of any onshore facility or offshore facility from which oil or a hazardous substance is discharged in violation of paragraph (3) of this subsection shall be assessed a civil penalty by the Secretary of the department in which the Coast Guard is operating of not more than $5,000 for each offense. Any owner, operator, or person in charge of any vessel from which oil or a hazardous substance is discharged in violation of paragraph (3)(i) of this subsection, and any owner, operator, or person in charge of a vessel from which oil or a hazardous substance is discharged in violation of paragraph (3)(ii) who is otherwise subject to the jurisdiction of the United States at the time of discharge, shall be assessed a civil penalty by the Secretary of the department in which the Coast Guard is operating of not more than $5,000 for each offense. No penalty shall be assessed unless the owner or operator charged shall have been given notice and opportunity for a hearing on such charge. Each violation is a separate offense. Any such civil penalty may be compromised by such Secretary. In determining the amount of the penalty, or the amount agreed upon in compromise, the appropriateness of such penalty to the size of the business of the owner or operator charged, the effect on the owner or operator's ability to continue in business, and the gravity of the violation, shall be considered by such Secretary. The Secretary of the Treasury shall withhold at the request of such Secretary the clearance required by section 4197 of the Revised Statutes of the United States, as amended (46 U.S.C. 91), of any vessel the owner or operator of which is subject to the foregoing penalty. Clearance may be granted in such cases upon the filing of a bond or other surety satisfactory to such Secretary.

(B) The Administrator, taking into account the gravity of the offense, and the standard of care manifested by the owner, operator, or person in charge, may commence a civil action against any such person subject to the penalty under subparagraph (A) of this paragraph to impose a penalty based on consideration of the size of the business of the owner or operator, the effect on the ability of the owner or operator to continue in business, the gravity of the violation, and the nature.

extent, and degree of success of any efforts made by the owner, operator, or person in charge to minimize or mitigate the effects of such discharge. The amount of such penalty shall not exceed $50,000, except that where the United States can show that such discharge was the result of willful negligence or willful misconduct within the privity and knowledge of the owner, operator, or person in charge, such penalty shall not exceed $250,000. Each violation is a separate offense. Any action under this subparagraph may be brought in the district court of the United States for the district in which the defendant is located or resides or is doing business, and such court shall have jurisdiction to assess such penalty. No action may be commenced under this clause where a penalty has been assessed under clause (A) of this paragraph.

(C) In addition to establishing a penalty for the discharge of a hazardous substance, the Administrator may act to mitigate the damage to the public health or welfare caused by such discharge. The cost of such mitigation shall be deemed a cost incurred under subsection (c) of this section for the removal of such substance by the United States Government.

(D) Any costs of removal incurred in connection with a discharge excluded by subsection (a)(2)(C) of this section shall be recoverable from the owner or operator of the source of the discharge in an action brought under section 309(b) of this Act.

(E) Civil penalties shall not be assessed under both this section and section 309 for the same discharge.

(c)(1) Whenever any oil or a hazardous substance is discharged, or there is a substantial threat of such discharge, into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or which may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Fishery Conservation and Management Act of 1976) the President is authorized to act to remove or arrange for the removal of such oil or substance at any time, unless he determines such removal will be done properly by the owner or operator of the vessel, onshore facility, or offshore facility from which the discharge occurs.

(2) Within sixty days after the effective date of this section, the President shall prepare and publish a National Contingency Plan for removal of oil and hazardous substances, pursuant to this subsection. Such National Contingency Plan shall provide for efficient, coordinated, and effective action to minimize damage from oil and hazardous substance discharges, including containment, dispersal, and removal of oil and hazardous substances, and shall include, but not be limited to—

(A) assignment of duties and responsibilities among Federal departments and agencies in coordination with State and local agencies, including, but not limited to, water pollution control, conservation, and port authorities;

(B) identification, procurement, maintenance, and storage of equipment and supplies;

(C) establishment or designation of a strike force consisting of personnel who shall be trained, prepared, and available to provide necessary services to carry out the Plan, including the establishment at major ports, to be determined by the President, of emergency task forces of trained personnel, adequate oil and hazardous substance pollution control equipment and material, and a detailed oil and hazardous substance pollution prevention and removal plan;

(D) a system of surveillance and notice designed to insure earliest possible notice of discharges of oil and habardous substances and imminent threats of such discharges to the appropriate State and Federal agencies;

(E) establishment of a national center to provide coordination and direction for operations in carrying out the Plan;

(F) procedures and techniques to be employed in identifying, containing, dispersing, and removing oil and hazardous substances;

(G) a schedule, prepared in cooperation with the States, identifying (i) dispersants and other chemicals, if any, that may be used in carrying out the Plan, (ii) the waters in which such dispersants and chemicals may be used, and (iii) the quantities of such dispersant or chemical which can be used safely in such waters, which schedule shall provide in the case of any dispersant, chemical, or waters not specifically identified in such schedule that the President, or his delegate, may, on a case-by-case basis, identify the dispersants and other chemicals which may be used, the waters in which they may be used, and the quantities which can be used safely in such waters; and

(H) a system whereby the State or States affected by a discharge of oil or hazardous substance may act where necessary to remove such discharge and such State or States may be reimbursed from the fund established under subsection (k) of this section *or the fund established under section 5 of the Environmental Emergency Response Act, as appropriate*, for the reasonable costs incurred in such removal.

The President may, from time to time, as he deems advisable revise or otherwise amend the National Contingency Plan. After publication of the National Contingency Plan, the removal of oil and hazardous substances and actions to minimize damage from oil and hazardous substances discharges shall, to the greatest extent possible, be in accordance with the National Contingency Plan.

(d) Whenever a marine disaster in or upon the navigable waters of the United States has created a substantial threat of a pollution hazard to the public health or welfare of the United States, including, but not limited to, fish, shellfish, and wildlife and the public and private shorelines and beaches of the United States, because of a discharge, or an imminent discharge, of large quantities of oil, or of a hazardous substance from a vessel the United States may (A) coordinate and direct all public and private efforts directed at the removal or elimination of such threat; and (B) summarily remove, and, if necessary, destroy such vessel by whatever means are available without regard to any provisions of law governing the employment of personnel or the expenditure of appropriated funds. Any expense incurred under this subsection or under the intervention on the High Seas Act (or the convention defined in section 2(3) thereof) shall be

a cost incurred by the United States Government for the purposes of subsection (f) in the removal of oil or hazardous substance.

(e) In addition to any other action taken by a State or local government, when the President determines there is an imminent and substantial threat to the public health or welfare of the United States, including, but not limited to, fish, shellfish, and wildlife and public and private property, shorelines, and beaches within the United States, because of an actual or threatened discharge of oil or hazardous substance into or upon the navigable waters of the United States from an onshore or offshore facility, the President may require the United States attorney of the district in which the threat occurs to secure such relief as may be necessary to abate such threat, and the district courts of the United States shall have jurisdiction to grant such relief as the public interest and the equities of the case may require.

(f)(1) Except where an owner or operator can prove that a discharge was caused solely by (A) an act of God, (B) an act of war, (C) negligence on the part of the United States Government, or (D) an act or omission of a third party without regard to whether any such act or omission was or was not negligent, or any combination of the foregoing clauses, such owner or operator of any vessel from which oil or a hazardous substance is discharged in violation of subsection (b)(3) of this section shall, notwithstanding any other provision of law, be liable to the United States Government for the actual costs incurred under subsection (c) for the removal of such oil or substance by the United States Government in an amount not to exceed, in the case of an inland oil barge $125 per gross ton of such barge, or $125,000, whichever is greater, and in the case of any other vessel, $150 per gross ton of such vessel (or, for a vessel carrying oil or hazardous substances as cargo, $250,000), whichever is greater, except that where the United States can show that such discharge was the result of willful negligence or willful misconduct within the privity and knowledge of the owner, such owner or operator shall be liable to the United States Government for the full amount of such costs. Such costs shall constitute a maritime lien on such vessel which may be recovered in an action in rem in the district court of the United States for any district within which any vessel may be found. The United States may also bring an action against the owner or operator of such vessel, *or against any guarantor of an owner's or operator's liability under the Environmental Emergency Response Act*, in any court of competent jurisdiction to recover such costs.

(2) Except where an owner or operator of an onshore facility can prove that a discharge was caused solely by (A) an act of God, (B) an act of war, (C) negligence on the part of the United States Government, or (D) an act or omission of a third party without regard to whether any such act or omission was or was not negligent, or any combination of the foregoing clauses, such owner or operator of any such facility from which oil or a hazardous substance is discharged in violation of subsection (b)(3) of this section shall be liable to the United States Government for the actual costs incurred under subsection (c) for the removal of such oil or substance by the United States Government in an amount not to exceed $50,000,000, except that where the United States can show that such discharge was the result of

willful negligence or willful misconduct within the privity and knowledge of the owner, such owner or operator shall be liable to the United States Government for the full amount of such costs. The United States may bring an action against the owner or operator of such facility in any court of competent jurisdiction to recover such costs. The Administrator is authorized, by regulation, after consultation with the Secretary of Commerce and the Small Business Administration, to establish reasonable and equitable classifications of those onshore facilities having a total fixed storage capacity of 1,000 barrels or less which he determines because of size, type, and location do not present a substantial risk of the discharge of oil or a hazardous substance in violation of subsection (b)(3) of this section, and apply with respect to such classifications differing limits of liability which may be less than the amount contained in this paragraph.

(3) Except where an owner or operator of an offshore facility can prove that a discharge was caused solely by (A) an act of God, (B) an act of war, (C) negligence on the part of the United States Government, or (D) an act or omission of a third party without regard to whether any such act or omission was or was not negligent, or any combination of the foregoing clauses, such owner or operator of any such facility from which oil or a hazardous substance is discharged in violation of subsection (b)(3) of this section shall, notwithstanding any other provision of law, be liable to the United States Government for the actual costs incurred under subsection (c) for the removal of such oil or substance by the United States Government in an amount not to exceed $50,000,000, except that where the United States can show that such discharge was the result of willful negligence or willful misconduct within the privity and knowledge of the owner, such owner or operator shall be liable to the United States Government for the full amount of such costs. The United States may bring an action against the owner or operator of such a facility in any court of competent jurisdiction to recover such costs.

(4) The costs of removal of oil or a hazardous substance for which the owner or operator of a vessel or onshore or offshore facility is liable under subsection (f) of this section shall include any costs or expenses incurred by the Federal Government or any State government in the restoration or replacement of natural resources damaged or destroyed as a result of a discharge of oil or a hazardous substance in violation of subsection (b) of this section.

(5) The President, or the authorized representative of any State, shall act on behalf of the public as trustee of the natural resources to recover for the costs of replacing or restoring such resources. Sums recovered shall be used to restore, rehabilitate, or acquire the equivalent of such natural resources by the appropriate agencies of the Federal Government, or the State government.

(g) Where the owner or operator of a vessel (other than an inland oil barge) carrying oil or hazardous substances as cargo or an onshore or offshore facility which handles or stores oil or hazardous substances in bulk, from which oil or a hazardous substance is discharged in violation of subsection (b) of this section, alleges that such discharge was caused solely by an act or omission of a third party, such owner or operator shall pay to the United States Government the actual costs incurred under subsection (c) for removal of such oil or

substance and shall be entitled by subrogation to all rights of the United States Government to recover such costs from such third party under this subsection. In any case where an owner or operator of a vessel, of an onshore facility, or of an offshore facility, from which oil or a hazardous substance is discharged in violation of subsection (b)(3) of this section, proves that such discharge of oil or hazardous substance was caused solely by an act or omission of a third party, or was caused solely by such an act or omission in combination with an act of God, an act of war, or negligence on the part of the United States Government, such third party shall, notwithstanding any other provision of law, be liable to the United States Government for the actual costs incurred under subsection (c) for removal of such oil or substance by the United States Government, except where such third party can prove that such discharge was caused solely by (A) an act of God, (B) an act of war, (C) negligence on the part of the United States Government, or (D) an act or omission of another party without regard to whether such act or omission was or was not negligent, or any combination of the foregoing clauses. If such third party was the owner or operator of a vessel which caused the discharge of oil or a hazardous substance in violation of subsection (b)(3) of this section, the liability of such third party under this subsection shall not exceed in case of an inland oil barge $125 per gross ton of such barge, $125,000, whichever is greater, and in the case of any other vessel, $150 per gross ton of such vessel (or, for a vessel carrying oil or hazardous substances as cargo, $250,000), whichever is greater. In any other case the liability of such third party shall not exceed the limitation which would have been applicable to the owner or operator of the vessel or the onshore or offshore facility from which the discharge actually occurred if such owner or operator were liable. If the United States can show that the discharge of oil or a hazardous substance in violation of subsection (b)(3) of this section was the result of willful negligence or willful misconduct within the privity and knowledge of such third party, such third party shall be liable to the United States Government for the full amount of such removal costs. The United States may bring an action against the third party *or against any guarantor of an owner's or operator's liability under the Environmental Emergency Response Act* in any court of competent jurisdiction to recover such removal costs.

(h) The liabilities established by this section shall in no way affect any rights which (1) the owner or operator of a vessel or of an onshore facility or an offshore facility may have against any third party whose acts may in any way have caused or contributed to such discharge, or (2) The United States Government may have against any third party whose actions may in any way have caused or contributed to the discharge of oil or hazardous substance.

(i)(1) In any case where an owner or operator of a vessel or an onshore facility or an offshore facility from which oil or a hazardous substance is discharged in violation of subsection (b)(3) of this section acts to remove such oil or substance in accordance with regulations promulgated pursuant to this section, such owner or operator shall be entitled to recover the reasonable costs incurred in such removal upon establishing, in a suit which may be brought against the United States Government in the United States Court of Claims, that such discharge was caused solely by (A) an act of God, (B) an act of war, (C) negligence on the part of the United States Government, or (D) an act or omission of a third party without regard to whether such act or omission was or was not negligent, or of any combination of the foregoing clauses.

(2) The provisions of this subsection shall not apply in any case where liability is established pursuant to the Outer Continental Shelf Lands Act, or the Deepwater Port Act of 1974.

(3) Any amount paid in accordance with a judgment of the United States Court of Claims pursuant to this section shall be paid from the funds established pursuant to subsection (k).

(j)(1) Consistent with the National Contingency Plan required by subsection (c)(2) of this section, as soon as practicable after the effective date of this section, and from time to time thereafter, the President shall issue regulations consistent with maritime safety and with marine and navigation laws (A) establishing methods and procedures for removal of discharged oil and hazardous substances, (B) establishing criteria for the development and implementation of local and regional oil and hazardous substance removal contingency plans, (C) establishing procedures, methods, and equipment and other requirements for equipment to prevent discharges of oil and hazardous substances from vessels and from onshore facilities and offshore facilities, and to contain such discharges, and (D) governing the inspection of vessels carrying cargoes of oil and hazardous substances and the inspection of such cargoes in order to reduce the likelihood of discharges of oil from vessels in violation of this section.

(2) Any owner or operator of a vessel or an onshore facility or an offshore facility and any other person subject to any regulation issued under paragraph (1) of this subsection who fails or refuses to comply with the provisions of any such regulations, shall be liable to a civil penalty of not more than $5,000 for each such violation. This paragraph shall not apply to any owner or operator of any vessel from which oil or a hazardous substance is discharged in violation of paragraph (3)(ii) of subsection (b) unless such owner, operator, or person in charge is otherwise subject to the jurisdiction of the United States. Each violation shall be a separate offense. The President may assess and compromise such penalty. No penalty shall be assessed until the owner, operator, or other person charged shall have been given notice and an opportunity for a hearing on such charge. In determining the amount of the penalty, or the amount agreed upon in compromise, the gravity of the violation, and the demonstrated good faith of the owner, operator, or other person charged in attempting to achieve rapid compliance after notification of a violation, shall be considered by the President.

(k) There is hereby authorized to be appropriated to a revolving fund to be established in the Treasury such sums as may be necessary to maintain such fund at a level of $35,000,000 to carry out the provisions of subsections (c), (d), (i), and (l) of this section. Any other funds received by the United States under this section shall also be deposited in said fund for such purposes. All sums appropriated to or deposited in, said fund shall remain available until expended.

(l) The President is authorized to delegate the administration of this section to the heads of those Federal departments, agencies, and

instrumentalities which he determines to be appropriate. Any moneys in the fund established by subsection (k) of this section shall be available to such Federal departments, agencies, and instrumentalities to carry out the provisions of subsections (c) and (i) of this section. Each such department, agency, and instrumentality, in order to avoid duplication of effort, shall, whenever appropriate, utilize the personnel, services, and facilities of other Federal departments, agencies, and instrumentalities.

(m) Anyone authorized by the President to enforce the provisions of this section may, except as to public vessels; (A) board and inspect any vessel upon the navigable waters of the United States or the waters of the continguous zone, (B) with or without a warrant arrest any person who violates the provisions of this section or any regulation issued thereunder in his presence or view, and (C) execute any warrant or other process issued by an officer or court of competent jurisdiction.

(n) The several district courts of the United States are invested with jurisdiction for any actions, other than actions pursuant to subsection (i)(1), arising under this section. In the case of Guam and the Trust Territory of the Pacific Islands, such actions may be brought in the district court of Guam, and in the case of the Virgin Islands such actions may be brought in the district court of the Virgin Islands. In the case of American Samoa and the Trust Territory of the Pacific Islands, such actions may be brought in the District Court of the United States for the District of Hawaii and such court shall have jurisdiction of such actions. In the case of the Canal Zone, such actions may be brought in the United States District Court for the District of the Canal Zone.

(o)(1) Nothing in this section shall affect or modify in any way the obligations of any owner or operator of any vessel, or of any owner or operator of any onshore facility or offshore facility to any person or agency under any provision of law for damages to any publicly owned or privately owned property resulting from a discharge of any oil or hazardous substance or from the removal of any such oil or hazardous substance.

(2) Nothing in this section shall be construed as preempting any State or political subdivision thereof from imposing any requirement or liability with respect to the discharge of oil or hazardous substance into any waters within such State.

(3) Nothing in this section shall be construed as affecting or modifying any other existing authority of any Federal department, agency, or instrumentality, relative to onshore or offshore facilities under this Act or any other provision of law, or to affect any State or local law not in conflict with this section.

(p)(1) Any vessel over three hundred gross tons, including any barge of equivalent size, but not including any barge that is not self-propelled and that does not carry oil or hazardous substances as cargo or fuel, using any port, or place in the United States or the navigable waters of the United States for any purpose shall establish and maintain under regulations to be prescribed from time to time by the President, evidence of financial responsibility of, in the case of an inland oil barge $125 per gross ton of such barge, or $125,000, whichever is greater, and in the case of any other vessel, $150 per gross ton of such vessel (or, for a vessel carrying oil or hazardous substances as cargo, $250,-

000), whichever is greater, to meet the liability to the United States which such vessel could be subjected under this section. In cases where an owner or operator owns, operates, or charters more than one such vessel, financial responsibility need only be established to meet the maximum liability to which the largest of such vessels could be subjected. Financial responsibility may be established by any one of, or a combination of, the following methods acceptable to the President: (A) evidence of insurance, (B) surety bonds, (C) qualification as a self-insurer, or (D) other evidence of financial responsibility. Any bond filed shall be issued by a bonding company authorized to do business in the United States.

(2) The provisions of paragraph (1) of this subsection shall be effective April 3, 1971, with respect to oil and one year after the date of enactment of this section with respect to hazardous subtasnces. The President shall delegate the responsibility to carry out the provisions of this subsection to the appropriate agency within sixty days after the date of enactment of this section. Regulations necessary to implement this subsection shall be issued within six months after the date of enactment of this section.

(3) Any claim for costs incurred by such vessel may be brought directly against the insurer or any other person providing evidence of financial responsibility as required under this subsection. In the case of any action pursuant to this subsection such insurer or other person shall be entitled to invoke all rights and defenses which would have been available to the owner or operator if an action had been brought against him by the claimant, and which would have been available to him if an action had been bought against him by the owner or operator.

(4) Any owner or operator of a vessel subject to this subsection, who fails to comply with the provisions of this subsection or any regulation issued thereunder, shall be subject to a fine of not more than $10,000.

(5) The Secretary of the Treasury may refuse the clearance required by section 4197 of the Revised Statutes of the United States, as amended (4 U.S.C. 91), to any vessel subject to this subsection, which does not have evidence furnished by the President that the financial responsibility provisions of paragraph (1) of this subsection have been complied with.

(6) The Secretary of the Department in which the Coast Guard is operated may (A) deny entry to any port or place in the United States or the navigable waters of the United States, to, and (B) detain at the port or place in the United States from which it is about to depart for any other port or place in the United States, any vessel subject to this subsection, which upon request, does not produce evidence furnished by the President that the financial responsibility provisions of paragraph (1) of this subsection have been complied with.

(q) The President is authorized to establish, with respect to any class or category of onshore or offshore facilities, a maximum limit of liability under subsections (f)(2) and (3) of this section of less than $50,000,000, but not less than $8,000,000.

(r) Nothing in this section shall be construed to impose, or authorize the imposition of any limitation on liability under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974.

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