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ENVIRONMENTAL EMERGENCY
RESPONSE ACT

REPORT

OF THE

COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

TO ACCOMPANY

S. 1480

together with

MINORITY, ADDITIONAL, AND SUPPLEMENTAL VIEWS



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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.

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, commer-

cial 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 million.

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 clean 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 dumptsite 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 Study⁴, 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 Compensation for Toxic Substances Pollution: Alabama, California, Michigan, Missouri, New Jersey and Texas," Congressional Research Service, Library of Congress Serial No. 93-13, 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 strategy 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 programs 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-eighths 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 considered 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 possi-

ble 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 compensable 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.