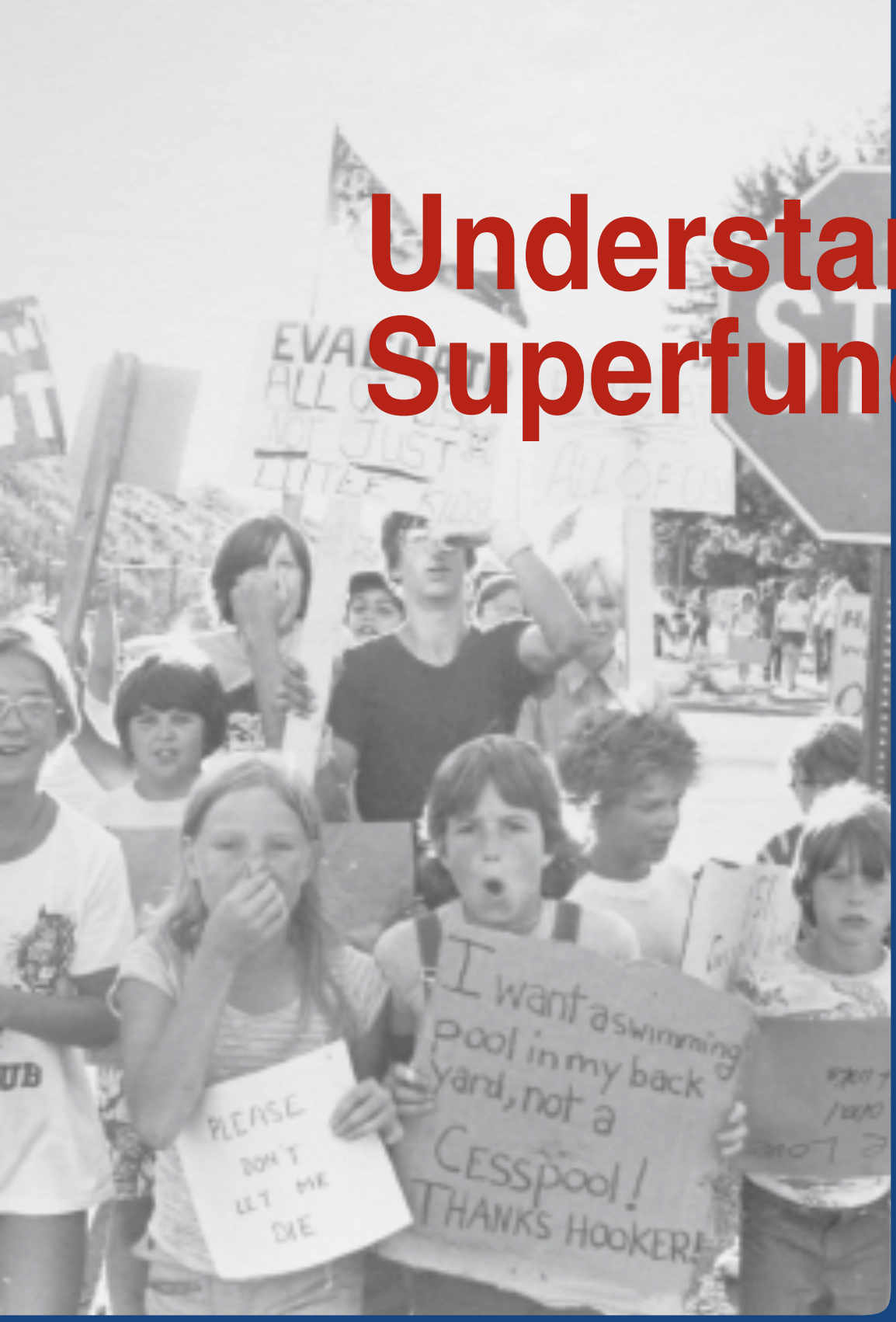
Understanding Superfund



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Mentoring a Movement

Empowering People

Preventing Harm

About the Center for Health, Environment & Justice

CHEJ mentors the movement to build healthier communities by empowering people to prevent the harm caused by chemical and toxic threats. We accomplish our work by connecting local community groups to national initiatives and corporate campaigns. CHEJ works with communities to empower groups by providing the tools, strategic vision, and encouragement they need to advocate for human health and the prevention of harm.

Following her successful effort to prevent further harm for families living in contaminated Love Canal, Lois Gibbs founded CHEJ in 1981 to continue the journey. To date, CHEJ has assisted over 15,000 groups nationwide. Details on CHEJ's efforts to help families and communities prevent harm can be found on www.chej.org.

Table of Contents

Chapter 1

Welcome to the World of Superfund

"What is Superfund, anyway? The hero from a comic book? Is it about bankers? A '70's action movie?"

Superfund is the common name given to a law passed by the United States Congress in 1980. Also known as CERCLA (the Comprehensive Environmental Response, Compensation, and Liability Act), Superfund gives the federal government authority and funding to clean up the nation's most dangerous abandoned hazardous waste sites. CERCLA was followed by SARA…

"Sara? Doesn't she make coffee cakes? What does she have to do with Superfund?"

No, that's Sara Lee. SARA stands for "Superfund Amendments and Reauthorization Act," passed by Congress in 1986. SARA extended the general requirements of the Superfund program and added several significant amendments to CERCLA.

"Just how many of these abandoned hazardous waste sites are there?"

In 2009, there were 12,697 sites in the United States CERCLIS database.* This database lists all hazardous waste sites that have been reported to the Environmental Protection Agency (EPA) and are being considered for cleanup. However, CERCLIS has not been updated since 2013, in efforts to transition to a new system called SEMS, the Superfund Enterprise Management System.

There are currently 1,337 sites on the National Priority List.[1] These are the sites, selected from CERCLIS, that qualify for remedial action, or full-scale permanent Superfund cleanup. An additional 35,375 sites were deleted or have been "archived";[2] that is, the EPA has decided they require no further consideration for Superfund cleanups.

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* EPA: Inventory of CERCLIS and Archived sites by state

"Yikes. And how many have they actually cleaned up?"

Good question. The EPA considers sites to be "cleaned up" when a phase of the cleanup called the remedial construction is finished. As of the end of November 2016, the EPA reported that construction at 1,188 sites (or 89% of the sites on the NPL) was complete. But the remaining sites, about 149 or 11%, are still in the process of being cleaned. The EPA also reported that the number of sites deleted from the National Priority List--- and therefore no longer considered threatening to public health or the environment—is 392 (or 29%).[3] How many of these sites are truly clean and safe for communities? No one really knows—but given the inadequate standards for most cleanups, probably only a very small number no longer pose any threat to public health or the environment.

"I see. And who's paying for all this?"

Mostly you and me, the U.S. taxpayers. In a few instances (around 20%) the polluters - called Responsible Parties (RP's) - pay for the long-term cleanup actions. The other 80%, comes from the Superfund trust fund and the annual Superfund budget, which used to be financed primarily by taxes on chemical and petroleum companies. However, 1995 was the last year the tax was collected, and by the end of 2003, funds invested from this fund were exhausted. Since then, the cleanup of these toxic waste sites has been paid for by you, the tax payers, with the funds coming from general revenue.[4]

"And just how long does one of these cleanups take?"

Until recently, the average duration of a full-scale remedial action was 10 years; however, the EPA reports that it has reduced the average clean-up time to 8 years.[5] Removal actions are limited to a year.

"Ok—so there's CERCLA, there's SARA, there's the EPA. Are those the only abbreviations I need to remember?"

I'm afraid not. Read on.

Glossary: A Brief Guide to Superfund-Speak

If you overhear someone saying that the NCP requires the EPA to use the HRS to see if CERCLIS sites make the NPL (and that they plan to go after PRPs and make them pay for the RA), you have arrived in the world of Superfund. Now that you're here, it's a good idea to learn the language—at least enough to get by. Here's a list of some of the most important terms. As you can see, the government loves abbreviations and acronyms in the world of Superfund.

ATSDR: ***Agency for Toxic Substances and Disease Registry.*** This is the agency in charge of health issues at Superfund sites. It's not a part of EPA, but a division of the Centers for Disease Control.

CERCLA: The official name for the Superfund legislation. The ***Comprehensive Environmental, Response, Compensation, and Liability Act of 1980.*** The law that started it all.

CERCLIS: ***Comprehensive Environmental Response, Compensation, and Liability Information System.*** A list of all the abandoned hazardous waste sites that the EPA considers for cleanup. These are the candidate sites that are evaluated; the worst of which get added to the National Priority List. It was replaced in 2013 by a more current database (See SEMS).

CRP: Not to be confused with PRP! CRPs are ***Community Relations Plans***. The EPA has to develop one at every remedial action site.

EPA: ***The Environmental Protection Agency***. For the most part (for better or for worse), the folks at this beleaguered federal agency run the Superfund show.

HRS: ***Hazard Ranking System***. A scoring system that determines whether a CERCLIS site makes it on to the NPL. Sites that are flagged after the PA/SI are scored using this system (see below).

NCP: The ***National Oil and Hazardous Substances Contingency Plan***. This is the official document that tells the EPA how to put the law into practice.

NPL: The ***National Priority List.*** EPA's "Most Wanted." These are the sites determined to be the most dangerous in America—and the only ones that qualify for remedial actions.

RCRA: ***The Resource Conservation and Recovery Act of 1976***. It tracks and regulates America's hazardous waste from generation to disposal, and it's supposed to make Superfund obsolete one of these days. Let's hope it works.

Remedial Action: Remedial actions are the big ones, meant to clean up the most dangerous sites for good. Remedial action can also refer to the phase of a cleanup in which the actual cleaning takes place.

Some important remedial action terms:

- **RD/RA:** ***Remedial design*** and ***remedial action.*** This is the cleanup itself, from the design to construction to the actual cleaning.
- **RI/FS**: ***Remedial investigation*** and ***feasibility study***. The process of assessing the contamination at the site (RI) and identify options for cleaning it up (FS).

- **ROD:** ***Record of Decision***. This is the official document that announces to the public how the site will be cleaned up. It follows the feasibility study.
- **PA/SI:** ***Preliminary assessment*** and ***site inspection***. These are the first two phases, in which the EPA checks out a site to see if it's dangerous enough to include on the National Priority List. Sites identified as dangerous are scored using the Hazard Ranking System to see if they should be added to Superfund

Removal Action: Usually an immediate response to an emergency, like a chemical spill, a potential explosion, or a threat of groundwater contamination.

RP: ***Responsible Party.*** The company that is liable for the pollution at a site. Usually chemical or petroleum companies. In EPA literature, you can expect to encounter the term that attorneys for industry prefer: **PRP**, or **"Potentially Responsible Party."**

RPM: ***The Remedial Project Manager*** is the EPA official who oversees the cleanup of a site.

SARA: The sequel to CERCLA. ***Superfund Amendments and Reauthorization Act of 1986***. It continued the funding for Superfund, made changes in the law that made it stronger, and gave the program more money.

SEMS: ***Superfund Enterprise Management*** **System**. Since the end of FY 2013, EPA has been slowly transitioning from CERCLIS to SEMS. Though it contains the same information on Superfund sites as CERCLIS, SEMS is a more efficient and comprehensive database.

TAG: ***Technical Assistance Grant***. A community group at a remedial action site can apply for a TAG to hire an expert who can help interpret the technical aspects of the cleanup. $50,000 is available for every Superfund site.

TOSC: ***Technical Outreach Services for Communities.*** An EPA program to supplement the TAG program: it offers community groups at Superfund sites access to a network of academic experts across the country.

Chapter 2

Superfund: How It All Started

It's no secret that America's chemical, petroleum, and manufacturing industries have been making a toxic mess for well over a century. For years, however, most Americans were unaware of the extent to which industrial pollution was destroying our environment and endangering out health. By the middle of this century, citizens began to recognize the damage caused by pollution and started pushing the United States Government to pass laws to control it. Congress responded by passing the Federal Water Pollution Control Act in 1948 and the Air Pollution Control Act in 1955.

But a couple of decades later, it had become clear that these measures were far from enough. Industrial pollution continued to increase. In 1970 the EPA was born, and Congress began to pass tougher laws to regulate pollution – such as the Clean Water Act of 1972 (which authorized the United States Government to take action when oil or other hazardous materials are released into navigable waterways) and the Resource Conservation and Recovery Act (RCRA) of 1976 (which regulates and tracks hazardous substances and standardizes the procedures for their treatment, storage, and disposal). These laws and others like them were important steps in curbing pollution, but they were still not enough. Another huge, hazardous, hidden mess remained, waiting to be cleaned up.

In the late 1970's, things got worse. At that time, a number of communities in the United States began to realize that severe health problems they were suffering were linked to hazardous chemicals in their soil, water, and air. The most famous of these communities was Love Canal, a neighborhood in Niagara Falls, New York. Residents of the area, led by CHEJ's founding director Lois Gibbs, began to notice two things: first, something was destroying their health and their children's health – causing unusually high rates of birth defects, miscarriages, and a number

of serious illnesses - and second, something foul and poisonous was bubbling up from the ground underneath their homes and schools. They then learned that the area had served for over three decades as a chemical waste dump – used by the Hooker Chemical Corporation, the City of Niagara Falls, and the United States Army – and that the local Board of Education, fully aware of the buried waste, had paid Hooker one dollar to buy the land in 1953. The city went on to build a school and develop hundreds of homes at the site, failing to mention the buried toxic waste to families who moved in. By the 1970's, the waste was surfacing visibly, and the residents of Love Canal were becoming terribly sick.

Faced with declining health and plummeting property values, the residents of the community organized and formed the Love Canal Homeowners' Association (LCHA), led by Lois Gibbs and other neighborhood residents. After a long, difficult battle, the LCHA won evacuation from the site for all of the families in the area and brought national attention to the conditions they had been forced to live with. People soon became aware that Love Canal was not unique; communities all over the country were sacrificing their health and their homes to toxic pollution. It was now obvious that the U. S. Government desperately needed a law to deal with the deadly contamination at abandoned waste sites.

The Birth of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)

In the wake of the publicity surrounding the crisis at Love Canal, the U.S. Congress passed CERCLA, or Superfund, in 1980. CERCLA was the first law to give the U.S. Government both authority and money to cleanup (or make polluters cleanup) abandoned toxic waste sites. The provisions of the law created a five-year plan to find and cleanup the nation's most dangerous sites, gave primary responsibility for administering the plan to the EPA, and established a $1.6 billion trust fund to pay for the cleanup of any site where a polluter could not be identified, was bankrupt, or refused to take action. This program would become known as the "Superfund".

CERCLA also guaranteed that polluting industries – not individual taxpayers – would foot the bill for cleaning up the mess. Eighty-six percent of the money in the trust fund would come from a tax on the manufacture and import of petroleum and certain chemicals (the remainder supplied from general revenues, interest earned by the fund, and recovered costs from Responsible Parties). In addition, industries found responsible for toxic waste sites would either pay to clean up the sites or reimburse the EPA for doing it. If the Resource Conservation and Recovery Act of 1976 would prevent "future Love Canals," CERCLA would take care of the ones that were already there. Or so the theory went.

Superfund's Rough Early Days

At the time, it looked like Superfund was just what the doctor ordered. Government officials trusted estimates that there were only a few hundred dangerous abandoned hazardous waste sites in America. Five years seemed like plenty of time (and $1.6 billion plenty of money) to clean them up.

The estimates, however, weren't even in the ballpark. Within a few years, tens of thousands of contaminated sites had been identi-

fied as candidates for Superfund cleanups. Even though the EPA decided to limit the number of these sites it would tackle to several thousand, five years of work and $1.6 billion would still hardly make a dent.

At the same time, it was becoming clear how severely the government had underestimated the enormity of the problem, it also became obvious that the EPA had essentially no idea what it was doing, decisions affecting people's health and livelihood were delayed by an inefficient bureaucracy and entrusted to inexperienced managers. The agency's usual methods of cleaning up hazardous waste – "containing" it on-site or carting it off to a landfill somewhere – either just slowed down the spread of contamination for a while or created new sites to clean up. People who lived and worked near the sites tried to participate in the cleanup process, but they found their concerns routinely ignored or dismissed. The EPA obviously had a lot to learn.

As if these obstacles were not enough, the political climate of the early '80's virtually guaranteed Superfund's failure. Since any regulation of industry was taboo under President Ronald Reagan, Congress was far from enthusiastic about enforcing CERCLA. Reagan also made several unfortunate appointments to the EPA. Under his first EPA administrator, Anne Gorusch Burford, and her assistant Rita Lavelle, the agency manipulated the timing of some important cleanups for partisan political reasons – to help the Republican Party win key elections – and bent over backwards to save money for polluters. Burford ultimately resigned under heavy pressure, while Lavelle served time in jail for lying under oath. Given these scandalous circumstances, few cleanups took place at all. And when the original five-year term of CERCLA ran out, cleanup work came to a standstill as legislators bickered over how – and even whether – to reauthorize the Superfund program.

SARA: Superfund Grows Up

This bickering ended with the passage of the Superfund Amendments and Reauthorization Act (SARA) of 1986. SARA constituted a major overhaul of CERCLA:

- It provided funding for the Superfund program for another five years; increased the amount of money in the trust fund to $8.5 billion and added a tax on corporate profits to help finance it; and established more thorough and specific procedures for cleanups.

- Instead of moving waste to leaky landfills or capping it on-site, the EPA was ordered to seek and implement more thorough and permanent solutions to managing toxic waste – primarily methods of treatment that would reduce the toxicity of the waste. In addition, the EPA would establish a research and development program to discover better technologies for cleanups and formally educate its staff about how to use them.

- The EPA received more power to enforce payment by polluters, and citizens gained the right to sue for violations of the Superfund law.

- SARA formalized the previously haphazard procedures for public participation and added the Technical Assistance Grant program.

- The U.S. Government would have to follow Superfund guidelines for cleaning up abandoned hazardous waste at its own

facilities – military and federal research sites – but without access to the money in the trust fund.

- SARA's Title III established provisions for emergency preparedness and community right-to-know.

- A new $500 million trust fund, supplied by an excise tax on motor fuel, would pay to clean up leaks from Leaking Underground Storage Tanks (LUSTs) for gasoline. Out of about 1 million storage tanks in the United States, about 200,000 (or 20%) were leaking and contaminating ground water.[6]

- SARA also set deadlines for the EPA to initiate and complete certain phases of its cleanup work.

In spite of the EPA's well-publicized failures during the first few years of CERCLA, the provisions of SARA showed a great deal of promise.

Superfund Since SARA

Even though Superfund was light years away from working as it needed to be, its heart was still beating. The Omnibus Budget Reconciliation Act of 1990 renewed the law with no major amendments through the end of September 1994 and added $5.1 billion to the trust fund;[7] since then, a number of attempts to reauthorize the law with new amendments have failed. Thanks to yearly extensions, the program remains alive, but lawmakers have yet to come to any agreement about how to fix it. One thing is not in dispute: it's going to take a lot more money. Although EPA estimates tend to be more conservative, some studies have estimated that the cost of cleaning up all the dangerous hazardous waste sites in America could reach hundreds of billions of dollars – certainly a far cry from the original (now laughable) $1.6 billion.

A 2011 analysis of Superfund funding under the American Recovery and Reinvestment Act (enacted by President Obama in response to the 2009 economic crisis) found that an additional $600 million allotted to Superfund allowed EPA to begin cleanups at 25 new sites and expand cleanups at 26 sites.[8] The author concluded that this increase in Superfund actions demonstrates that adequate funding can fundamentally improve the program. Therefore, Congress' refusal to reinstate the polluter pays fees is clearly directly impending EPA's ability to complete Superfund cleanups.

Financially Ailing Superfund

By 1995, Superfund Trust Fund had accumulated nearly $4 billion. However, the authorization to collect these fees ended that year and was not renewed by Congress. Consequently, in 2003 the program ran out of money and the entire financial burden of paying for the cleanup of the worst orphan toxic sites in America fell to the taxpayers. In the past five years, Congress has annually allocated approximately $1.26 billion of general revenues – taxpayer money – to the Superfund program.

Funding for Superfund has continued to decrease from approximately $2 billion in 1999 to less than $1.1 billion in 2013 (in constant dollars) according to a federal Government Accountability Office (GAO) report.[9] This decrease has resulted in a dramatic reduction in the number of sites cleaned up. From 2001 to 2008, there was more than a 50% decrease in the number of sites cleaned up.[10]

This slide continued during the Obama Administration and recently under the direction of EPA Administrator Gina McCarthy when there was a 40% further reduction in Superfund cleanups – from 20 in 2009 to a mere 8 in 2014.[11]

Bi-Partisan Presidential Support for Superfund

With the exception of President George W. Bush, the Superfund polluter pays fees have benefited from broad bipartisan presidential support. President Jimmy Carter, a Democrat, signed the original law in 1980 and President Ronald Regan, a Republican, signed the 1986 law to expand the program and continue collecting fees. In 1990, President George H.W. Bush, a Republican, signed legislation renewing the fees,[12] and in 1995 Democratic President Bill Clinton's Administration proposed renewing the Superfund fees, but Congress failed to approve it. The Bush Administration was the first and only administration with President George W. Bush, a Republican consistently opposing reinstatement of the polluter pays fees. By 2003, the Trust Fund was bankrupt, forcing the American taxpayers to pay the entire cost of running the Superfund program.

Unlike his predecessor, President Barack Obama and his Administration repeatedly supported the reinstatement of the polluter pays fees, but intense opposition from Congress has prevented reinstatement of the fees. On his campaign website, President Obama said he would, "… restore the strength of the Superfund program by requiring polluters to pay for the cleanup of contaminated sites they created."[13-15] During his two administrations, Obama has attempted to keep that promise. His budgets, while sometimes decreasing total EPA funding, consistently allotted between $1.1 and $1.3 billion to Superfund and recommended the reimplementation of polluter pays fees.[16]

Congressional Efforts to Reauthorize Superfund Fees

Numerous bills have been introduced to refinance Superfund, but an obstructionist Congress has consistently fought reauthorization of these fees and none have passed. Congressional representatives, including Frank Pallone, Jr. (D-NJ), Maurice Hinchey (D-NY), Senator Barbara Boxer (D-CA) and former senators Lincoln Chafee (R-RI), Frank Lautenberg (D-NJ) and Hilary Clinton (D-NY), all sponsored bills to reinstate Superfund's polluter pays fees.[17,18] However, none of these attempts to shift cleanup expenses back to polluting industries have been successful.

The Congressional Sessions during Obama's presidency (111th to 114th) have continued to reject any attempts to finance Superfund through these fees. Two recent failed attempts, one in the House of Representatives and one in the Senate, demonstrate the continuous lack of Congressional support for this crucial program. On July 29, 2014, Corey Booker (D-NJ) introduced in the Senate the "Superfund Polluter Pays Restoration Act of 2014" (S. 2679) supported by Senator Robert Menendez (D-NJ) and Senator Barbara Boxer.[19] This bill would have reinstated the polluter pays fees, increasing them slightly to adjust for inflation. However, it was referred to the Committee on Finance where it died.

Representative Earl Blumenauer (D-OR) introduced in the House the "Superfund Reinvestment Act" (H.R. 1596) cosponsored by former Representative Timothy Bishop (D-NY) and Representative Frank Pallone (D-NJ) on April 15, 2011.[20] This bill proposed

reinstating the polluter pays fees and ensuring that Superfund allotments are used only to finance Superfund cleanup. After referrals to four separate committees and two subcommittees, this bill died. Representative Blumenauer reintroduced this bill on June 15, 2015, garnering 18 co-sponsors in the process. GovTrack.us, an analytical organization dedicated to governmental transparency, reported that the new version of the bill has a 1 percent chance of being passed.[21]

Chapter 3
The Superfund Process: How it Works

The EPA is in charge of administering and implementing Superfund, but other agencies also serve important functions in the program. An overview of the Superfund process and the Remedial procress can be found in Appendix C. The United States Coast Guard handles cleanups in coastal waters. Other agencies and departments, such as the Federal Emergency Management Agency and the Department of Defense, are involved in cleanups involving federal facilities. The EPA also encourages states and tribal governments to participate in federal cleanup actions whenever possible. The EPA's program for administering Superfund is divided into ten regions (for contact information, see Appendix D).

Big cleanup jobs involve a lot of people. There are engineers and contractors, and then there are the folks who put on the "moon suits" and deal with the nasty stuff itself—doing everything from moving rusty drums filled with chemicals to digging in contaminated dirt. The U.S. Army Corps of Engineers often manages and oversees this work, but private contractors hired by the government usually take care of the nitty gritty: the design, the construction, and the moving, lifting, and digging.

The National Contingency Plan

A massive document called the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) serves as the "Superfund handbook" for the EPA and other agencies involved in cleanups. Originally developed to establish procedures for implementing the Clean Water Act of 1972, the NCP has been revised several times to incorporate the provisions of CERCLA and SARA. Although it is filled with formal procedures, it permits the EPA to be flexible and tailor its solutions to the problems of each individual site. The NCP also includes guidelines for enforcing the law and making polluters pay for cleanups whenever possible.

There are two kinds of cleanups (or response actions) performed under the Superfund law-Removal Actions that require immediate action and Remedial Actions that require more extensive evaluation and cleanup.

Removal Actions: The Quicker-Picker-Upper

Removal Actions are designed to be prompt, relatively inexpensive responses to chemical releases that pose an immediate danger to human health or the environment.

Typical scenarios include train wrecks, spilling thousands of gallons of sulfuric acid into a river and onto its banks; a manufacturing facility goes bankrupt and closes its doors, leaving behind hundreds of corroded drums leaking cyanide; barrels of toxic waste lying on the surface of an abandoned landfill, putting children who play nearby at high risk of exposure. All three scenarios are examples of situations calling for removal actions. In a typical removal—managed by an EPA official called the OSC (the On-Scene Coordinator)—an emergency response team (usually private contractors) goes to the scene and takes steps to both limit damage to the environment and to protect people in the area from exposure to the contamination. Depending on the situation, they might close off the area with fences, evacuate people living in nearby homes, neutralize or control the flow of spilled chemicals, remove chemicals that might ignite or explode or provide an alternative source of drinking water to nearby residents. Removal Actions usually don't clean up sites permanently, but they are often the first step in a long-term remedial action.

There are three kinds of removal actions: *emergency, time-critical, and non-time-critical.* The differences among them have to do with how quickly the EPA must respond. In emergency removals, the EPA must act within hours; in time-critical removals, within six months; and in non-time-critical removals, after a planning period of up to six months.

SARA limits the money and time the EPA can spend on a removal to $2 million and twelve months of work. (The original limits were $1 million and six months of work.) In certain circumstances, the EPA can waive these limits, but it usually makes an effort to keep removals fast and under budget.

The EPA tends to point to the removal program as one of Superfund's great success stories. If success is to be measured in numbers alone, the EPA may be justified in its pride. With over 11,000 removals under its belt by the end of 2015,[22] the EPA has kept a pace of over 200 per year since the program started. To the agency's credit, a great many of these actions have successfully handled emergencies and protected communities from danger.

Remedial Actions: The Long Road to Cleanliness

Remedial Actions constitute the heart and soul of the Superfund program. Far more expensive, far more complex, and far more time consuming than removal actions, remedial actions are reserved only for the sites on the National Priority List. The average cost of remedial actions remains anywhere between $10 to $25 million,[23] and the typical remedial action still can take as long as 10+ years to finish. According to a federal Government Accountability Office (GAO) report, the number of remedial actions has decreased from 116 projects in 1999 to 73 in 2013.[24]

The Identification of Contaminated Sites: SEMS/CERCLIS

The EPA learns of potentially dangerous hazardous waste sites from a variety of sources, including reports from businesses that generate or transport waste, the agency's own routine inspections of facilities, and notifications from citizens or local governments.

(Citizens can report releases of oil or chemicals by calling the National Response Center Hotline at 1-800-424-8802.)

Since the start of the Superfund program, sites reported to the EPA were added to the CERCLIS list. In 2013, EPA stopped updating CERCLIS, in efforts to transition to a better, more efficient information system called SEMS, the Superfund Enterprise Management System. This new system encompasses all data and functions of the old CERCLIS database, as well as some other EPA applications.[25] SEMS data has been included in reports starting in January 2016.[26]

In 2009, there were 12,679 sites in the CERCLIS database,[27] though the list had once been much larger. This changed when the Clinton Administration EPA removed approximately 30,000 sites from CERCLIS (which was originally intended to be a permanent list), placed them in an archive and dropped them from consideration for further Superfund action. EPA argued that this was necessary to eliminate the threat of future liability and to encourage development. Unfortunately, only about 7,000 of the deleted sites had been clean up. The other 23,000 or so were left contaminated, but the EPA was no longer responsible for them.)[28] Since then, 4,725 sites had been added to the archive, as reported by EPA the last time the old CERCLIS database was updated.[29]

Sites on the CERCLIS list do not automatically qualify for remedial cleanups. Although the EPA conducts a preliminary assessment (PA) at all CERCLIS sites, the vast majority never qualify for the much more exclusive National Priority List.

Preliminary Assessment (PA)

In a preliminary assessment for a CERCLIS site, the EPA gathers any written documents pertaining to the site and examines them. Based on that information, it decides whether the level of contamination at the site is serious enough to demand a closer look. The EPA tries to give each site a preliminary assessment within a year of its inclusion in CERCLIS. At the time of a site's preliminary assessment, the EPA begins looking for Responsible Parties (RPs) to pay for and conduct a cleanup—should one prove necessary.

Site Inspection

Preliminary assessments eliminate some of the sites on CERCLIS from further consideration for a remedial action. The remaining sites advance to the next round of completion: the Site Inspection (SI). If a preliminary assessment suggests that a site might be dangerous, the EPA sends inspectors to the site to test samples of the soil, surface water, air, and groundwater at the site and to analyze its terrain and layout. You will often see the preliminary assessment and site inspection phases lumped together and referred to as the PA/SI.

The Hazard Ranking System

After assessing and inspecting a site, EPA analysts study the data they have gathered and try to determine whether the site is

dangerous enough to qualify for a remedial action. They look at several factors, including the number of people at risk; the potential for contamination of air, drinking water, and food supplies; the risk of people making direct contact with hazardous materials; and the potential destruction of the ecosystem.[30] Using a scoring system called the Hazard Ranking System (HRS), the EPA then assigns the site a score ranging from 1 to 100. If the site receives a score of 28.50 or more, then it qualifies for a remedial cleanup-- and inclusion on the National Priority List.

In December 2016, EPA made a major improvement to the HRS by adding vapor intrusion as one of the exposure pathways that is considered. Vapor intrusion is the migration underground of hazardous substances, pollutants or contaminants from contaminated groundwater or soil into an overlying building. Vapor intrusion can result in people being exposed to harmful levels of hazardous substances, which can raise the lifetime risk of cancer or chronic disease. This regulatory change did not affect sites already on or proposed to be added to the NPL. For more information see EPA's website under HRS Subsurface Intrusion.

The National Priority List

The National Priority List (or NPL, as it is commonly called) is EPA's official list of the sites it considers the most dangerous or potentially dangerous in America. While sites do not have to be on the NPL to qualify for removal action, they must be on the NPL to qualify for remedial action. As of March 2017, there are 1,337 sites on the National Priority List.[31]

Receiving a HRS score of 28.5 is the most common route to the NPL-- but not the only one. There is one other way a site might make the cut. The area impacted by the site might receive a health advisory from the Agency for Toxic Substances and Disease Registry (ATSDR). (ATSDR, under the jurisdiction of the Department of Health and Human Services, was commissioned under CERCLA to be the primary Superfund health authority.) If the EPA agrees with ATSDR that the site poses a significant threat to human health, it can assume a spot on the NPL. CERCLIS sites that do not qualify for the NPL are usually referred by EPA to state or local governments, or to private parties for cleanup.

Remedial Investigation (RI)

Once a site reaches the NPL, the EPA (or a Responsible Party, under the supervision of the EPA) is supposed to start the process of getting it cleaned up. The cleanup process begins with a remedial investigation (RI), which consists primarily of a second inspection of the site. This time around, though, instead of merely evaluating the level of danger at a site based on readily available information and data, inspectors gather new information to figure out the best way to clean it up. A remedial investigation begins with collecting all existing data and establishing plans for research and community relations, site characterization-- which involves conducting field sampling to determine the level and extent of contamination, lab analyses, risk assessments, and other studies-- and the development and screening of alternative cleanup options.

Feasibility Study (FS)

After conducting the remedial investigation, the inspectors compile a list of cleanup methods that might be used to "cleanup" the site.

These methods might include moving the waste to a landfill, burning it, using a newer treatment process to remove the contamination, or leaving it in place and placing a cap or cover over the top. These cleanup methods are then evaluated in a "treatability" investigation, referred to as the feasibility study (FS).

In order to determine which cleanup method is the most appropriate and feasible for the site, the EPA has identified nine questions that must be answered.

1. Does this method of cleanup protect human health and the environment?
2. Does it meet state and federal environmental laws and regulations?

(These two constitute what EPA calls the threshold criteria. If a method fails to meet these basic criteria, the agency eliminates it from consideration.)

3. Will this be a permanent solution to the problem-- effective in the long run?
4. Will it reduce the level of toxicity, the volume of toxic waste, and the mobility of the poison?
5. Will workers on the cleanup site and residents of the area be protected during the cleanup?
6. Is the method practical to implement? (e.g., Are the right materials available? Does the terrain permit it?)
7. Is it cost-effective?

(These five questions are known as the primary balancing criteria. EPA compares the pros and cons of its suggested methods based on the answers to these questions.)

8. Will the state accept this method?
9. Will the community accept it?

(Answers to the last two questions are called the modifying criteria. They are the final considerations the EPA takes into account before proposing a cleanup method.)

Proposed Plan for Long-term Cleanup

After the remedial investigation and feasibility study (known collectively as the RI/FS), EPA draws up the Proposed Plan for Long-Term Cleanup and presents it to the public. The Proposed Plan describes the various cleanup options considered during the RI/FS phase and identifies the EPA's or responsible party's preferred cleanup option. Members of the community then have thirty days to look over the Proposed Plan and comment on it, either in writing or in public meetings.
Record of Decision (ROD)

After the public comment period ends, the EPA officially selects the method of cleanup and announces it to the public in a document called the Record of Decision (ROD). The ROD also contains responses to public comments (the Responsiveness Summary) and explains why the chosen method was selected. Although communities have occasionally persuaded the EPA to reconsider the Proposed Plan during the public comment period, the original proposed method usually stands.

Remedial Design (RD) and Remedial Action (RA)

Once the cleanup method becomes official, the EPA hires private contractors to come in and do the work. The contractors design and construct the necessary equipment and facilities (the remedial design, or RD) and carry

out the work of the cleanup (the remedial action, or RA), usually under the supervision of the U.S. Army Corps of Engineers.

After the site is cleaned up, the EPA oversees operation and maintenance (O&M) activities, which are supposed to ensure that the site doesn't get messed up again. In most cases, states or responsible parties eventually assume responsibility for this work. Once a site has been "closed out" and declared free of contamination, the EPA can have the site removed from the NPL.

Chapter 4

Key Elements: Public Participation, Right-To-Know, & Public Health

A Superfund cleanup can be a pivotal event in the life of a community. Threats to public health may only be the beginning of the challenges residents must face. Their homes may diminish in both safety and value; their natural resources and environment may suffer severe damage; and their local economies may hang in the balance. With so many aspects of their lives at stake, communities near Superfund sites absolutely must have a voice in the cleanup process.

The U.S. Government didn't figure this out until Superfund had been in effect for a few years. In the early years of CERCLA, there were no guidelines for public participation in cleanups, and the EPA excluded most communities from participating in the remediation process. In 1982, the EPA added a few provisions for public participation to the National Contingency Plan, but it wasn't until 1986-- with the passage of SARA-- that Congress directed EPA to develop formal procedures to ensure community involvement in cleanups.

Community Relations Plans

The heart of Superfund's public participation provisions is the Community Relations Plan, or CRP. In a remedial action, the EPA must develop a CRP for the site before the remedial investigation field work begins. Under the oversight of the regional Community Relations Coordinator, the EPA schedules a series of meetings, hearings, and announcements as required by the National Contingency Plan. Virtually all such activities take place during the remedial investigation and feasibility study phases.

A Community Relations Plan includes the following provisions:

1. A set of one-on-one interactions between EPA coordinators and local officials and community members.

2. A series of announced public meetings, of which transcripts must be available for citizens unable to attend.

3. A fact sheet about the remedial design phase, published and distributed to the community. The EPA sometimes distributes fact sheets about other phases as well.

4. The establishment of an accessible and convenient official information repository-- usually at a local library, town hall, or other public building-- containing documents including the remedial investigation and feasibility study, the Community Relations Plan, the health assessment from the Agency for Toxic Substances and Disease Registry (if applicable), and other reports and fact sheets. The information repository must have copying facilities.

5. Once the feasibility study is complete, the EPA must publish and post its Proposed Plan for Long-Term Cleanup and give the public thirty days in which to submit comments, either in writing or in meetings. A community is entitled to request an extension of the comment period.

6. When the EPA issues its Record of Decision describing the chosen remedy, it must respond to all "significant" comments in a Responsiveness Summary.

Technical Assistance Grants (TAGs)

One of the most important public participation provisions of SARA is the Technical Assistance Grant (TAG) program. Before SARA, communities often found that the large amount of highly technical information they had to digest made it impossible to participate meaningfully in the remedial cleanup process. Through the TAG program, an organization of citizens impacted by a Superfund site can apply for a renewable grant of up to $50,000 with which it can hire an independent technical advisor-- normally a professional scientist-- and possibly other experts to interpret and communicate technical information about the site and the cleanup process. The TAG technical advisor can gather information at site visits, meetings, and hearings, review documents related to the site and the cleanup, meet with the community group to interpret technical information, and help communicate residents' concerns to the EPA.

There are limitations to the TAG program:

- Only non-profit community groups that are incorporated or working towards incorporation-- and whose health and livelihood are potentially threatened by waste at the site-- are eligible for grants. Groups affiliated with Responsible Parties, government organizations, or partisan political organizations are ineligible.

- The EPA normally allows only one TAG for each site on the NPL. At some large or unusually complex sites, however, the EPA may make additional funds available.

- The group must contribute matching funds equal to 20% of the Technical Assistance Grant. The EPA stipulates that the matching funds can take the form of either cash or donated services or supplies. Fair-market value of a volunteer's time can also contribute to these matching funds.

Technical Assistance Services for Communities (TASC)

As a supplement to the TAG program, the EPA introduced a program called Technical Outreach Services for Communities (TOSC) to provide additional technical assistance--

especially to communities who are ineligible for Technical Assistance Grants. Now known as Technical Assistance Services for Communities (TASC), it has transformed into a program where communities are provided help through a contractor to better understand the technical issues they're dealing with. Communities facing possible Superfund cleanups-- either removals or remedial actions-- are invited to seek technical assistance and obtain information, at no-cost, through this program. More information can be found online.

Other Provisions for Public Participation

Occasionally, the EPA will hold additional informal meetings, sponsor programs at schools, provide bilingual communication, or offer other services beyond those required by the Community Relations Plan. (But don't count on it without strong public pressure!)

In 1996, the EPA introduced the Ombudsman program. There is a National Ombudsman, and one ombudsman in each of the ten Superfund regions, who serve as a facilitator between the EPA and the public and a source of information on Superfund cleanups and policy. Unfortunately, the ombudsmen have virtually no power to make decisions or determine policy, and as William Sanjour, a former EPA employee, pointed out, some of them have proven to be completely unsympathetic to the concerns of communities.[32] The ombudsmen can listen to complaints from the community and try to address their concerns.

Other opportunities for the public to participate in the Superfund process exist. Citizens can call the National Response Center to identify sites, and they can also comment when the EPA proposes either adding a site to or deleting a site from the NPL. Such proposals are listed in the Federal Register, now available online

SARA Title III Emergency Preparedness and Community Right-to-Know

In the early years of Superfund, citizens demanded access to information about hazardous chemicals used in their communities, along with plans to respond to emergencies involving these chemicals. Title III of SARA established the following guidelines:

- It set up state emergency response commissions (SERCs) and local emergency planning committees (LEPCs), to develop plans for responding to local emergencies involving releases or potential releases of dangerous chemicals.

- It required facilities who use or store hazardous chemicals to prepare forms called Material Safety Data Sheets and Emergency and Hazardous Chemical Inventory Forms, which they must then submit to the state commissions and local communities responsible for emergency planning. These forms list the types and amounts of chemicals at a facility and provide information about the hazards they pose and where they are stored.

For more information on how to use SARA Subtitle III to learn more about the storage and use of hazardous chemicals in your community, see CHEJ's guidebook: Using Your Right to Know.

Health Assessments: ATSDR

At sites where there are reports of serious illness in the surrounding community, a division of the Centers for Disease Control called the Agency for Toxic Substances and Disease Registry (ATSDR) steps in and conducts a "health assessment" of the community. This is not to suggest, however, that the ATSDR carefully studies residents' health and makes recommendations as to how to take care of public health problems-- like relocating families or establishing clinics. Generally, the ATSDR merely examines existing available data about the contamination at a site and makes judgments about what the health risks from exposure to that contamination might be. In addition to these "Assessments", the ATSDR may hold meetings and workshops and provide limited consultation on health issues. We'll return to the ATSDR later on *(see Chapter 5)*.

Chapter 5

Superfund's Superflaws: What's Not Covered

Chemicals not defined as "hazardous"

Some sites are exempt from being placed on the NPL. These are sites where the contamination results primarily from chemicals that are exempt from CERCLA regulation. These include chemicals that are not defined as hazardous. The EPA has defined four characteristics of waste that determine if a substance is considered to be "hazardous": ignitibility, corrosivity, reactivity, and toxicity. In other words, if it poses a fire hazard, if it can corrode standard containers, if it has a tendency to explode, or if it is highly poisonous, the EPA considers it hazardous waste.[33] Some waste is exempt altogether regardless of whether it's hazardous. These waste types are listed in Table 1 on the next page.

Though the definition of "hazardous" waste is the same throughout the nation, there are differences in state regulations for hazardous waste generators. States may actually choose to implement stricter policies than those established by RCRA. For more information regarding state regulations, refer to EPA's website here and here.

Petroleum, Natural Gas, and Nuclear Waste

Two notable exemptions from CERCLA are petroleum and natural gas. This is primarily because oil and gas are specifically excluded from the definition of hazardous substance by EPA. Consequently, the industry has little incentive to clean up its hazardous waste and to minimize leaks and spills. Community and environmental activists have been pushing for years to amend the law so that releases of oil and gas into the environment will also come under Superfund's jurisdiction. That fight continues. Another important exemption from Superfund is high-level radioactive waste, which is regulated and managed under different laws by the Nuclear Regulatory Commission and the Department of Energy.

Table 1 – Exemptions from Federal Regulation as Hazardous Waste

- Rigwash
- Produced water
- Produced sand
- Hydrocarbon-bearing soil
- Drilling fluids & Drill cuttings (including those from offshore operations disposed of onshore)
- Packing fluids
- Geothermal production fluids
- Well completion, treatment, and stimulation fluids
- Workover wastes
- Basic sediment, water, and other tank bottoms from storage facilities that hold product and exempt waste
- Hydrogen sulfide abatement wastes from geothermal energy production
- Pit sludges and contaminated bottoms from storage or disposal of exempt wastes
- Gas plant dehydration wastes (including glycol-based compounds, glycol filters, and filter media, backwash, and molecular sieves)
- Gas plant sweetening wastes for sulfur removal (including amines, amine filters, amine filter media, backwash, precipitated amine sludge, iron sponge, and hydrogen sulfide scrubber liquid and sludge)
- Light organics volatilized from exempt wastes in reserve pits, impoundments, or production equipment
- Cooling tower blowdown & materials ejected from a producing well during blowdown
- Accumulated materials (such as hydrocarbons, solids, sands, and emulsion from production separators, fluid treating vessels, and production impoundments)
- Spent filters, filter media, and backwash (assume the filter itself is not hazardous and the residue in it is from an exempt waste stream)
- Pigging wastes from gathering lines
- (Some) wastes from subsurface gas storage and retrieval
- Pipe scale, hydrocarbon solids, hydrates, and other deposits removed from piping and equipment prior to transportation
- Constituents removed from produced water before it is injected or disposed of
- Liquid hydrocarbons removed from the production stream but not from oil refining
- Gases from the production stream (such as hydrogen sulfide and carbon dioxide, and volatilized hydrocarbons)
- Waste crude oil from primary field operations

Source: US EPA, Office of Solid Waste (2002)

Other Releases

Superfund does not require the EPA to clean up every waste site or release of toxic chemicals-- only those it determines pose a threat to human health and welfare or the environment. In addition, CERCLA does not cover releases that affect only employees within a workplace-- such events are covered by other laws.

Damage to Individuals

Although SARA gives citizens the right to sue for violations of Superfund, individuals whose health or property has been damaged by hazardous waste cannot receive compensation from the trust fund. Also, individuals typically can sue for damages only under common law in state courts-- not in federal courts.

Brownfields: The Buck Has Been Passed

Brownfields are contaminated, abandoned industrial sites that exist primarily in urban areas. The U.S. General Accounting Office estimated that there are somewhere between 400,000 - 600,000 brownfield sites,[34] most of which are in economically depressed, lower-income neighborhoods in cities around the nation. Many of these sites were also on the EPA's CERCLIS list because they needed some degree of cleanup. Developers typically avoid redeveloping brownfields-- fearing that they might be held liable for the contamination-- and instead seek uncontaminated "greenfields," which are usually outside city limits. Hoping to stimulate private cleanup and redevelopment of brownfields and revitalize the nearby communities, the EPA has eliminated thousands of sites from CERCLIS and offered to limit new developers' liability for building on those sites.[35]

The problem with building on Brownfield sites is that the people who are involved in redeveloping a Brownfield site are typically developers who have no experience in evaluating contaminated soil and are clearly biased against any action that increases costs. Consequently, there is rarely any cleanup of existing contamination at these sites.

Bringing jobs to communities who need them is important, but the EPA's brownfield program is a highly questionable approach. "Voluntary cleanups" of brownfields have typically been far less stringent than Superfund cleanups, and public participation in the process is practically non-existent. So brownfield communities may be stuck with contamination-- and little say in how to deal with it. In addition, if industries who redevelop brownfields are released from future liability, taxpayers will end up paying for cleaning up any future contamination caused by the new development.

Removal Action Superflaws

Removal Actions often do more harm than good. In the interest of saving money and time, the EPA has conducted removals at sites where more thorough and permanent remedial actions would be more appropriate. One such ill-advised removal action took place at the Escambia Treating Company (ETC) site, a former wood treating facility located in a predominantly African-American neighborhood in Pensacola, Florida. Although ETC abandoned the site in dreadful disarray in 1982, the EPA did not begin to pay attention to it until 1991. With forty years' worth of highly toxic chemical contamination in the soil and groundwater, the site should have been a prime candidate for a remedial action from the start. Instead, the EPA suddenly decided to perform a cheaper

emergency removal in 1991. Without carefully analyzing the contamination, developing an emergency plan, or taking measures to protect adjacent neighborhoods, the agency recklessly bulldozed an asbestos-laden boiler building and rapidly dug up soil containing large quantities of pentachlorophenol and creosote which were contaminated with dioxin, one of the most toxic chemicals ever tested. In the process, EPA created a 300,000-ton pile of dioxin-laced dirt (which came to be known as Mt. Dioxin) and failed to cover it! The poisonous dust from the pile blew freely in the wind into the nearby community. Not only did the people begin to suffer a wide range of severe health problems, but the prospect of selling their homes and moving away had also become hopeless.[36]

To make matters worse, residents discovered that in an emergency removal, they had essentially no opportunities to participate in the cleanup process. In an emergency or a time-critical removal, the EPA is supposed to provide citizens with opportunities to comment on the action within 60 days of its initiation; in non-time-critical removals, the agency is required to solicit public comment before the action begins. But according to the EPA's Superfund Orientation Manual, public comment periods and meetings in removals take place only "if time permits" and in certain circumstances.[37] Faced with threats to their health, environment, and way of life, communities have found these informal, limited provisions for participation (often not honored by the EPA) to be thoroughly insufficient.

In early 1992, the residents near the Escambia site organized and formed Citizens Against Toxic Exposure (CATE). After two years, CATE succeeded in having the site placed on the National Priority List, so that it qualified for a full remedial cleanup with formal provisions for public participation. But the damage from the EPA's rash decision to perform a removal had already been done. Several years later, the entire 350 families in this neighborhood were relocated because of high levels of dioxin in the soil throughout the neighborhood.

Remedial Action Superflaws

Ever since the beginning of Superfund, the EPA has felt pressure to keep the National Priority List at a "manageable" size. In its report Coming Clean, the United States Office of Technology Assessment confirmed that "[t]he size of the NPL is a policy choice" and that sites are "being rejected which truly need attention."[38] Even the supposedly scientific and objective Hazard Ranking System was designed to keep the list small. The cut-off score for inclusion on the NPL (28.5) was chosen because legislators originally called for the EPA to include a total of 400 CERCLIS sites on the NPL, and 28.5 happened to be the lowest score among the most dangerous 400 sites in CERCLIS. Since the EPA continues to limit its scope, increasing numbers of dangerous sites are passed on to state programs, where they may or may not receive the attention they deserve. Funding, staffing, enforcement authority, and cleanup activity vary greatly from state to state. While some states have well-established and well-funded Superfund programs that are more stringent than the federal program, others--like Idaho, Nebraska, and Georgia-- had no authorized cleanup fund as of 2010.[39]

Communities at Risk (CAR), a nationwide network of activists from communities that operated during the 1990s, raised the issue that the process of selection from the NPL may also be biased on the basis of race and class. According to CAR, a majority of sites

on the NPL are in white communities-- even though the majority of the sites identified and added to the CERCLIS database are in communities of color.[40]

Even if it does make it to the NPL, it may take a long time for the EPA to do anything about it. Making it from CERCLIS to the NPL has traditionally taken a long time. The Office of Technology Assessment found in the late 1980's that between a third and a half of identified sites waited over 8 years before being proposed for the NPL. After making it to the NPL, the average site waited another 4 to 5 years before receiving a remedial investigation and feasibility study.[41] Although the average wait for attention may be decreasing, communities continue having to live with toxic waste for intolerable periods of time.

Public Participation Superflaws

Many communities have found getting useful information from the EPA is about as easy as performing dental work on an angry rhinoceros. At various sites, the EPA has dawdled in starting its outreach program, failed to invite some of the most affected residents to important meetings, or announced meetings only in tiny ads buried in seldom-explored regions of the newspaper. Sometimes the required information depositories have been useless: little more than chaotic (and often incomplete piles of undecipherable documents, placed in locations that were not only miles away from affected residents, but also available only during hours when most people have to be at work.

In addition, numerous communities have struggled with the EPA's ineffective communication of technical information. Although TAG advisors have alleviated the problem somewhat, helping many communities better understand technical aspects of cleanups, the EPA has often neglected to let communities know that TAGs are available. Even the community groups who have been aware of TAGs have sometimes found it difficult to make the program work for them. The provision that organizations must contribute matching funds of 20% in order to get a TAG has proven to be a hardship for a number of communities, for whom resources of time and money may be scarce. Another problem is that TAGs are not available to communities until after the preliminary assessment and site inspection phases.[42] In addition, the complexity of the application (consisting of 10 pages of questions) and the guidance manual (54 pages of step-by-step instruction) for TAGs has discouraged many communities from even attempting to obtain a grant. The EPA has worked hard to improve the TAG program, and it has high hopes for the newer TASC initiative, but most communities would probably agree that the agency still has a long way to go.

Beyond keeping informed-- a formidable task in itself-- citizens have found that their opportunities to participate in making decisions about cleanups are severely limited. During the important preliminary assessment and site inspection phases, for instance, there is essentially nothing they can do. Even during the remedial investigation and feasibility study phases, the EPA seldom pursues community input. Until the feasibility study ends, all residents can do is go to informational meetings, read notices, and dig through the files at information repositories. Citizens can only issue official comments after the feasibility study is over and the Proposed Plan for Long-Term Cleanup has been posted. As for the main provision for public participation-- the 30-day comment period after the Proposed Plan is issued—communities have

often found it utterly inadequate. In many cases, the EPA simply presents a remedy and expects the community to support it--giving them a short time to evaluate its safety and effectiveness. Communities have the right to request an extension of the comment period, but many are not aware of this. EPA often grants extensions if requested. Many communities have reported that their input during the comment period had absolutely no effect-- simply ignored or dismissed by the EPA. After the comment period ends and the EPA issues its Record of Decision, the door to citizen participation is essentially shut.

The Superfund process works best when an active organized community group watchdogs the EPA. Community Relations Coordinators and Project Managers are the key contacts with whom most community groups work. While some of these officials have worked hard and served communities well, many others have hindered community efforts far more than they have helped them. In the EPA, the pay is usually low, the hours are generally long, and the rate of staff turnover is just about always high. As a result, some communities have dealt with constantly changing Community Relations Coordinators and Site Managers. The new staff often know little about the site or about the citizens' needs, and lack experience in the field.

Numerous communities have reported that the EPA has spent far more time and energy developing relationships with the polluters than it has with affected communities. Penny Newman and her community's organization, Concerned Neighbors in Action, had to fight doggedly for years for the right to participate in meetings between the EPA and responsible parties at the Stringfellow Acid Pits Superfund site in Glen Avon, California. Marion Trieste, of the Saratoga Springs Hazardous Waste Coalition in upstate New York, found it a "fluke" that her community had any opportunity to participate in the cleanup process and agreed that "citizen participation needs to be fixed in a big way."[43] After more than three decades of Superfund cleanups, communities are still battling to be included meaningfully in the process that affects them more than anyone.

Cleanup Superflaws

Even though SARA declared "off-site land disposal without treatment as the least-preferred alternative" and required the EPA to find safer and more permanent cleanup technologies, unsafe and inadequate methods are still largely the remedy of choice.[44] In spite of the existence of promising alternative methods of treatment (with names like bioremediation, fixation/solidification, carbon absorption, soil washing and flushing) the EPA and Responsible Parties still often "contain" waste on site by covering it with clay or put it on the "toxic merry-go-round" and send it off-site to a landfill, sometimes untreated.

At Love Canal, New York, the site that first brought national attention to the toxic waste problem, the process of remediation consisted of covering contaminated soil in the canal with a layer of clay and digging a trench system around it. The idea was to form a barrier between the waste and nearby houses and to drain the toxic chemicals to an on-site treatment plant. Five years later, when the state of New York finally began to monitor the remedy's effectiveness, chemicals were found to be leaking into the Niagara River and increasing in monitoring wells.[45]

Another common method of cleanup is "thermal treatment" (better known as incineration), which often causes more harm that

it cures. Incineration was the chosen remedy at the Drake Chemical site in Lock Haven, Pennsylvania-- even though EPA scientists had admitted that incineration at the site would emit dioxins, and an agency administrator had conceded that the choice was "lousy."[46] The local community group Arrest the Incinerator Remediation (AIR) fought for years for an alternative cleanup method, but the EPA stuck to its lousy choice and burned the toxic soil.

Many of the contractors typically hired to do the cleanup work have been among the least environmentally responsible companies in the country. Chemical Waste Management (the hazardous waste division of Waste Management, Inc.), for example, has a long history of egregious environmental violations at its landfills and incinerators. It has even been responsible for making a Superfund site (the Lackawanna Refuse Landfill Site in Lackawanna County, Pennsylvania) worse in the process of cleaning it up.[47] Other contractors have been similarly guilty. A report by the United States General Accounting Office point out that one of the EPA's largest contractors (not named in the report) overcharged the agency by $2.3 million and that some contractors successfully charged the EPA for expenses like alcohol at parties and sports tickets.[48]

ATSDR Superflaws

Many communities have found the work of the Agency for Toxic Substances and Disease Registry thoroughly disappointing and unhelpful.[49] As mentioned earlier, instead of studying and evaluating the health of residents, the ATSDR's "health assessments" simply study available levels of contamination and estimate health risks based on these levels. Numerous communities have found that ATSDR neither talks with residents nor includes local residents' information in their evaluations. A report by the General Accounting Office confirmed that ATSDR studies tell us very little about either a community's health or future health risks.[50]

Members of the Silver Valley People's Action Coalition (PAC) in Kellogg, Idaho-- home to an abandoned lead smelter and the one of the nation's largest Superfund sites-- struggled for years to get meaningful action from ATSDR. Even though studies demonstrated that Kellogg's death rates were the highest in Idaho and that the levels of lead in the yards of local residents (and in the blood of local children) were dangerously high, ATSDR consistently dismissed the concerns of the community and refused to establish a local clinic. Barbara Miller, a member of PAC, called ATSDR "a huge disappointment" who after years of meetings "continue[s] to ignore our needs."[51] Decades later, residents are still suffering.

Superflawed Cleanup Results

Ideally, Superfund cleanups would always permanently restore the soil, air, and water to "background levels"-- that is, the way it was before it was polluted: completely clean of contamination. But neither the EPA nor responsible parties want to clean sites this thoroughly. Although their standards differ, both the EPA and responsible parties consider a site "clean" if the risk of contracting diseases from exposure to contamination at the site is reduced to a certain "arbitrary" level- a level they deem acceptable. They conduct studies called risk assessments, which analyze the contamination at a site and estimate risks. (A risk assessment estimates the percentage of people likely to develop cancer from exposure to contamina-

tion at a site. The EPA considers a cleanup method to be acceptable if its risk assessment determines that the level of contamination that will remain after the remedial action will put between one in 10,000 and one in a million people at increased risk for cancer.)[52] Never mind that such studies typically assess cancer risks only for one chemical at a time and only for normal, healthy adults-- failing to take into account the additional risks posed by chemicals in combination or threats to more sensitive and vulnerable members of the population, like children, older people, and people with existing health problems. And never mind that risk assessments have a high level of scientific uncertainty and establish an arbitrary level of "acceptable" risk to human health. The EPA and responsible parties stand by them, insisting that the thorough cleanups most communities want are too expensive.

As a result, many cleanups are inadequate. Cleanups conducted by cost-conscious responsible parties, for instance, are generally the "least thorough and satisfactory."[53] Unfortunately, since the EPA has been increasingly successful in obtaining voluntary settlements with industry, such unsatisfactory efforts now constitute a large majority of cleanups. By 1997, responsible parties were conducting over 75% of all remedial actions. But even though cleanups conducted by the EPA are usually more stringent, the Office of Technological Assessment finds that the EPA also compromises stringency to save money and gives unequal attention to different communities.[54]

Relocation: An Option Rarely Considered

Residents of Superfund communities have often found themselves in a horrifying double blind. Not only does contamination endanger their health, but it also causes property values to plummet and traps them in unsafe homes. As much as residents might want to keep the community together in the same place, they realize that in order to protect their children, they must find a way to move away from the toxic chemicals. Unfortunately, they will inevitably face a struggle. Superfund has no practicing guidelines for evacuating and relocating people, and both polluters and the government are always reluctant to assume the costs.

Technically, Superfund has the authority to conduct relocations (both temporary and permanent) under Section 101 of CERCLA as noted below. What it lacks is the political will.

> Under CERCLA section 101, relocation (both temporary and permanent) are defined as response actions and may be considered for use at a site following the decision-making procedures outlines in the NCP.[55]

Under remedial authority, the first step in the remedy selection process is to characterize the site contamination (remedial investigation), identify and quantify the site risks (baseline risk assessment). If EPA determines that there are current or potential risks that should be addressed, the next step is the development of a range of possible remedial options (feasibility study). Both temporary and permanent relocations may be considered at this time along with the usual array of treatment and containment options, as appropriate. Finally, EPA conducts a comparative analysis of the options (using the nine criteria evaluation described below), proposes a remedy to the public for comment, then selects a final remedy that meets the NCP requirements and the statutory requirements established in CERCLA

Section 121[56]. Under the statute, EPA makes a determination that relocation is "more cost-effective than and environmentally preferable to the transportation, storage, treatment, destruction, or secure disposition off site of hazardous substances, or may otherwise be necessary to protect the public health or welfare."[57]

The nine criteria mentioned above (see Chapter 3), are used to evaluate the most promising cleanup options. It's important to understand, however, that these nine criteria are not equal. The first two factors are called "Threshold Criteria" because they absolutely need to be met. The next five factors are called "Balancing Criteria" because they usually involve tradeoffs between the factors. The final two factors are called "Modifying Factors" since the final cleanup decision (Record of Decision) seeks to meet the needs of both the states and the local community. All things being equal, a strong preference of either the state or local community should give added weight to a proposed remedy. EPA should consider adding a 10th criterion, "Environmental Justice" as an additional modifying factor so that communities that are especially vulnerable could be provided an additional measure of protection.

Based on this language in the Superfund statute, it is abundantly clear that Superfund has the statutory authority to relocate residents whose health is endangered. This deliberation should take place during the Feasibility Study phase of the site cleanup (although if the health threat was acute enough, it could also be done during an emergency action). What's missing is EPA's willingness to assert this authority. This is quite pathetic because the true health risks from toxic waste sites are largely unknown and well underestimated by traditional risk assessment practices that ignore individual vulnerabilities, synergism of chemicals, and critical windows of exposure.

Nonetheless, some communities have fought successful battles and won relocation. Love Canal (whose fight preceded the Superfund law) was one of the first. After years of relentlessly pressuring politicians and publicizing the community's plight, the Love Canal Homeowners' Association finally won relocation for all residents affected by the Love Canal's toxic waste. The residents of Times Beach, Missouri, which became a Superfund site when a flood contaminated the area with extremely high levels of dioxins, also successfully fought for relocation. In 1996, after a five-year battle, Citizens Against Toxic Exposure won permanent evacuation for the neighborhoods next to Mt. Dioxin in Pensacola, Florida. More recently in 2008, a community in Ottawa County, Oklahoma, contaminated with heavy metals from mining wastes was relocated. So it can be done, but leaders from all of these communities will tell you this: it will be a struggle.

Chapter 6

Superfund Alternative Approach

In 2002, EPA created an alternative approach for cleaning up contaminated sites that was separate from, but associated with, the Superfund program. Referred to as the Superfund Alternative (SA) Approach, this approach provides for the cleanup of contaminated sites eligible for cleanup under the Superfund program without the site actually being listed on the NPL.[58] There are currently 68 sites listed by the EPA as SA sites. EPA Regions 4 and 5 account for 85% of these sites.[59]

The cleanup at these sites is based on an agreement between EPA and the responsible parties, the companies responsible for the pollution. In order to qualify for an SA agreement, a site must: 1) meet the criteria for an NPL listing, 2) require long-term remedial action, and 3) have a responsible party that is willing to complete the remedial work.[60]

This alternative approach came about primarily because responsible parties did not want their site added to the Superfund list because of the stigma associated with being identified as an NPL site. Not only does this approach allow companies to avoid the perceived stigma it creates, but it also allows companies to avoid listing an NPL site as a liability in its financial papers. This can have a significant impact, especially if the company is to be sold.[61]

EPA has issued several guidance memos on SA sites, most recently in 2012.[62] This guidance directs staff to treat SA agreement sites "in accordance with the practices normally followed at sites listed on the NPL, using the same response techniques, standards, and guidance and achieving comparable cleanup levels."[63] However, as described below, a GAO report that reviewed the implementation of this approach found wide inconsistency in how this guidance was applied at SA agreement sites. This inconsistency is borne out by reports from leaders at local communities where these agreements are in place.

The inconsistency was especially apparent at the regional level. In the GAO report, the agency found that regional staff reported that they repeatedly entered agreements with responsible parties without following SA guidance and that this practice continues. Officials at EPA headquarters who were interviewed by GAO thought it was clear that the regions are to follow the SA agreement guidance, but they also acknowledged that this preference is not explicitly stated anywhere in guidance for the regions.[64]

In SA agreements, the responsible parties pledge to fund and oversee cleanups of non-NPL Superfund sites. If EPA determines these corporations are not meeting the terms of their remediation agreements, EPA can add the site to the NPL.[65] However, EPA has no authority to pay for remedial actions at sites not listed on the NPL, so its ability to negotiate with a recalcitrant or noncompliant responsible party is weakened.

Without the threat of being able to clean up the site independent of the responsible party and suing to recover as much as triple damages, EPA's negotiating power is severely weakened. As a result, corporations face little retribution for cutting corners and it's the communities who end up paying the price.

Limitations of Superfund Alternative Agreements

EPA claims that Superfund Alternative agreements benefit communities through faster action, lower cost, and less bureaucratic red tape.[66] There is concern, however, that SA agreements benefit polluters by prioritizing the wants of corporations over the needs of exposed communities. These concerns are founded in the lack of reporting requirements and accountability at SA agreement sites, especially compared to NPL sites. In a 2013 review of the implementation of the SA agreements, the GAO found that while the process for implementing the SA and NPL approaches had many similarities, "the agency's tracking and reporting of SA agreement sites differs significantly from its tracking and reporting of NPL sites." The GAO report also found that "Community views on this approach are mixed."[67]

The GAO found that "EPA's tracking of SA agreement sites in its Superfund database is incomplete; the standards for documenting the NPL eligibility of SA agreement sites are less clear than those for NPL sites; and EPA is not publically reporting a full picture of SA agreement sites. Unless EPA makes improvements in these areas, its management of the process at SA agreement sites may be hampered."[68]

In addition to the differences in tracking, GAO reports that "EPA has not reported the agency's performance on the progress of cleanup at SA agreement sites as it has for NPL sites." For NPL sites, EPA issues annual reports available on its website that measure performance at NPL sites. But this process does not include cleanup milestones achieved at SA sites.[69] This problem was recognized by EPA as early as 2007,[70] but it has not made progress in addressing this limitation. The GAO report goes on to say that "without such information on SA agreement sites, Congress lacks complete information on the progress of the Superfund program to inform its legislative actions, including appropriations." This lack of transparency could lead to less funding going to the Superfund program because of the uncertainty over how effective the cleanups carried out by this alternative process.[71]

One of the most notable differences between NPL sites and SAA sites is the way in which they involve affected communities. Community groups at NPL sites are eligible to apply for a Technical Assistance Grant (TAG), while SA agreement community groups can apply for Technical Assistance Plan (TAP) that are provided by the responsible party.[72] While the TAP process offers some advantages (no required "match" and less paperwork), there are disadvantages as well, including having to acquire the funds from the responsible party with all the conflicts that creates. Furthermore, responsible parties are not obligated to provide TAP funds unless approached by the public.

Another significant difference between SA agreement sites and NPL sites is the extent of public involvement that occurs at each type of site. At NPL sites, there are extensive opportunities for public involvement built into the site assessment and remedial process at numerous places. None of this formally exists at SA agreement sites[73] although EPA guidance does state that the agency will "generally follow the same practices for community engagement at sites using SA as it does for NPL."[74]

Another difference identified by the GAO was the limited opportunity for formal public comment on the EPA's selection of the SA approach itself.[75] Overall, the GAO found mixed results when comparing SA sites with 74 similar NPL sites in completing the cleanup process. They did find that a lower portion of SA agreement sites had complete cleanup compared to similar NPL sites, though GAO cautioned against drawing conclusions due to the limited number of SA and NPL sites in its analysis. Concern, however, remains about decreased community involvement and the lack of sufficient EPA oversight of this program.

Chapter 7
Liability, Enforcement, & Responsible Parties

One of the most contentious areas of Superfund policy is the question of liability. If you live near a Superfund site, you may find it ridiculous that the EPA spends so much time and energy wrestling with responsible parties to make them pay for the cleanup. After all, the top priority at any site should be to make it safe and to protect people and the environment from harm-- regardless of who pays.

Nonetheless, communities have good reasons to make sure that Congress preserves the strong liability and enforcement provisions found in CERCLA and SARA. Certain industries have fought for years-- with the help of cooperative and influential legislators-- to undermine the "polluter pays" principle and absolve themselves of the problems they have created. But the reasons we have so many abandoned hazardous waste sites today is that until the Resource Conservation and Recovery Act and Superfund came along, industries had never been held accountable for the toxic waste they dumped.

Weakening liability would reinforce the idea that industry can pollute freely and get away with it. What's more, when the "polluter pays" principle died, the expenses of cleaning up the waste was passed on to citizens.

Enforcement and Liability: What the Law Provides

As soon as a site is identified as a candidate for a cleanup action, the EPA begins searching for responsible parties: the company(ies) responsible for the waste at a site, whether they generated it, hauled it, or managed it after it had been dumped. The number of responsible parties at sites varies a great deal; there might be one or two, or there may be hundreds. Having tracked down one or more responsible parties at a site, the EPA first tries to settle out of court with them. If the responsible parties agree to settle, then they will pay for and conduct the cleanup under the oversight of the EPA and according to the guidelines in the National Contingency Plan.

This is the way EPA likes it, even though responsible party cleanups are usually less stringent.

But it isn't always that easy. If responsible parties refuse to settle, the EPA can get tough and order them to clean up the site or suffer the consequences. If they still won't give in, the EPA will conduct the cleanup itself-- using money from the Superfund trust fund-- and sue the responsible parties to recover its costs. In such cases, the EPA can sue to recover three times its expenses, including both legal and cleanup costs. If responsible parties give the EPA false information or fail to notify the agency of possible hazardous releases, the EPA can bring criminal charges against them. As for cases in which responsible parties are bankrupt or otherwise unable to pay for a cleanup, the EPA has no choice but to clean the site itself using Superfund money.

Generating a whopping 71 percent of all hazardous waste, the responsible parties at the majority of sites on the National Priority List are petroleum and chemical companies.[76] Most other responsible parties are businesses that use, store, or transport hazardous chemicals-- including companies that specialize in the management of hazardous waste. The NPL also includes a significant number of municipal landfills.

Strict, Joint and Several, Retroactive Liability

The strong standards for liability in CERCLA and SARA have long been the bane of industry. In legal terms, liability under Superfund is "strict, joint and several, and retroactive."

Joint and several liability means that at a Superfund site with more than one responsible party, the EPA has the option to hold each responsible party individually liable for the cost of the entire cleanup. The provision saves the EPA from having to take an inventory of the waste at a site, figure out who is responsible for how much, and then sue each responsible party for its portion. (The responsible parties retain the right to sue each other later and figure out who owes what portion.) Strict liability means that the EPA does not have to prove that a responsible party at a Superfund site acted with negligence or fault when it contributed to the pollution. Instead, it only needs to demonstrate that the responsible party was in some way responsible for the hazardous waste at the site: as a generator, hauler, or manager of the site. Retroactive liability permits the EPA to hold responsible parties responsible for pollution they caused before CERCLA and SARA were passed.

In addition, Superfund places the burden of proof on the polluters, who must prove that they had nothing to do with the hazardous waste at a site. If all of these strong liability provisions are not enough, the law provides several tempting settlement options in order to discourage litigation.

Liability and Enforcement: Realities and Superflaws

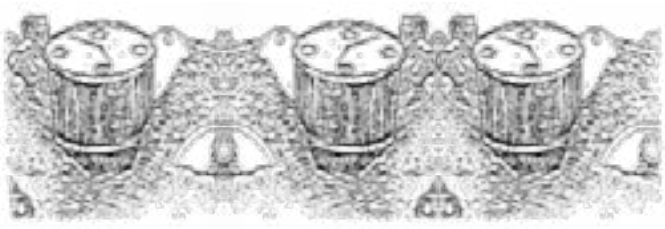
To no one's surprise, the liability and enforcement programs have not worked perfectly. Even with tough laws behind it, the EPA has done a poor job recovering costs from responsible parties. In 2015, out of the $40 billion classified as recoverable, responsible parties committed to reimburse only $512 million of EPA's past costs for Superfund sites.[77] Lawsuits have been plentiful and costly. As a result, the EPA is using the Superfund Trust Fund money for cleanups

without much hope of reimbursement. The only ones happy about this situation are the lawyers earning millions of dollars from all of the litigation.

Many industries-- especially chemical manufacturers and their insurance companies-- have been fighting hard to weaken or remove Superfund's liability guidelines. They argue that sorting out liability inevitably spawns lawsuits and holds up cleanups. Moreover, they incessantly whine that making them pay for waste they disposed of legally at the time (before the RCRA and Superfund) is "unfair." They proposed dropping the "polluter pays" principle and the liability and enforcement provisions and using a new broad based business tax to pay for cleanups. To sell their message to Congress, they had an army of well-paid lobbyists who seemingly never sleep. Their wish was granted in 1995, when the authorization to collect those polluter pays fees ended and has not since been reauthorized by Congress.

But industries don't stop with lobbying; they are capable of sinking much lower. They have been known, for instance, to send lawyers out to find and sue small local governments, individuals, and even Girl Scout troops who may have contributed a tiny amount of waste to a site, in order to identify them as a responsible party. In 1990, the major corporations Chesebrough-Pond's and Special Metals hired attorney Louis Patrone to hunt down de minimis (small-volume) contributors to the waste at a dump in Utica, New York. He coerced hundreds of small businesses owners to pay thousands of dollars in settlements, financially destroying many hard-working people in the process.[78] The purpose of such tactics is to demonstrate that the "polluter pays" principle becomes absurd when taken to its extreme.

But these obnoxious and brutal disruptions of people's lives miss the point. Girl Scout troops and family pizzerias don't generate massive profits by polluting, but many large corporations do.



Chapter 8

Financially Ailing Superfund

Funding Shortfall

Funding for Superfund has continued to decrease from approximately $2 billion in 1999 to less than $1.1 billion in 2013 (in constant dollars).[79] This decrease has resulted in a dramatic reduction in the number of sties cleaned up. From 2001 to 2008, there was over a 50% decrease in the number of sites cleaned up.[80]

The problem is that the program's funding has been greatly reduced ever since the industry fees were allowed to lapse in 1995. After Congress failed to reauthorize these fees, the federal government stopped collecting them. At that time, the Superfund Trust Fund had accumulated nearly $4 billion.[81] However, without the fees to fund the program, Superfund was increasingly forced to rely on Congressional appropriations for its funding. By 2003, Superfund had run out of money and the financial burden of cleaning up Superfund sites fell to U.S. taxpayers. A 2015 GAO report found that from 1999 to 2013, about 80% percent of EPA Superfund cleanup money came from taxpayers, while special accounts and state contributions financed the remaining 20%.[82] Since 2003, Congress has annually allocated between approximately $1.3 and $1.1 billion of general revenues – taxpayer money – to Superfund as Congress has failed to reinstate the fees during the Clinton, Bush, and now Obama Administrations.

The lack of polluter pays fees and the dependency on taxpayer revenues has led to a funding shortfall, which has weakened the Superfund's response to pressing environmental health concerns. In September 2015, the GAO, with cooperation from EPA, published an analysis of Superfund trends from 1999 to 2013. This report identified three problems linked to inadequate funding: (1) a decline in the number of remedial action completions; (2) a decrease in construction completions; and (3) a diminished efficiency in completing each project.[83] Both remedial

action and construction completions are incremental measures that EPA uses to determine the progress of Superfund site cleanup and recovery.[84]

The agency has also started fewer cleanups since the Trust Fund ran out of polluter pays fees money. Using EPA records, GAO found that remedial actions and the construction completions at Superfund sites have decreased significantly since 1999. The GAO report states that from 1999 to 2013 "the number of remedial action project completions at nonfederal* NPL sites generally declined by about 37 percent" while "the number of construction completions at nonfederal NPL sites generally declined by about 84 percent." The number of remedial actions has decreased from 116 projects in 1999 to 73 in 2013. In 1999 and 2000, there were construction completions at 80 Superfund sites annually, but by 2013, that number had dropped to 13.[85]

GAO also raised concerns about the efficiency of Superfund cleanup completions. According to their report, the median amount of time for project completions increased from about 2.6 years in 1999 to about 4 years in 2013.[86] These data show that Superfund cleanups are caught in a downward spiral: as a result of insufficient funding, cleanups are being completed more slowly, meaning they are continuously costing money and further depleting the Superfund budget.

The lack of polluter pays fees and the dependency on taxpayer revenue led to this funding shortfall which has been ongoing for some time. A 2002 article form the EPA Inspector General reported a $225 million funding shortfall.[87] The agency then "scrambled to de-obligate and re-certify unexpended prior year funds," and by the end of Fiscal Year (FY) 2002, the shortfall was down to $97 million.[88]

The EPA inspector General identified four areas of serious funding shortfalls consistent with the 2015 GAO report: (1) new start construction (cleanup) projects; (2) inadequately funded ongoing projects; (3) inadequately funded removal projects; and (4) inadequately funded pipeline projects. The report observed the following:

When funding is not sufficient, construction at [Superfund] National Priority List (NPL) sites cannot begin; cleanups are performed in less than an optimal manner; and/or activities are stretched over longer periods of time. As a result, total project costs may increase and actions needed to fully address the human health and environment risk posed by the contaminants are delayed."[89]

The funding shortfall reached an estimated $263 million in 2004, according to a survey of EPA staff by the House Energy and Commerce Committee resulting in 9 sites not being cleaned up.[90] House Committee Chair John D. Dingell and other Members of Congress criticized EPA for its lack of action. Dingell said that, "Instead of making an all-out effort to educate the public and the Congress about the serious funding shortfall, EPA has instead adopted communications strategies to minimize and downplay the problem."[91] To the best of our research, no estimate of the funding shortfall has been conducted since that time.

* Nonfederal NPL sites make up the majority of Superfund sites and refer to sites that are not directly under federal government jurisdiction, such as military bases.

Another concern resulting from the funding shortfall is the number of unfunded Superfund sites that result each year. During the 15 year period from 1999 to 2013, EPA did not fund 94 projects, about one-third of the new remedial action projects in the year in which they were ready to start.[92] In 2013, "EPA did not fund 22 out of 30 projects due to priorities for declining funds" and "in that year, these unfunded projects were estimated to have cost approximately $101 million."[93] In 2014, there were five unfunded sites, as shown in Table 2. Despite their high Hazard Ranking System scores and their need for remedial action, the lack of sufficient funding means these sites will not receive sufficient money to be cleaned up.

Super Slowdown

The decreased budget of the Superfund program has led to a dramatic reduction in the number of sites cleaned up. From 1997 to 2000, EPA averaged 87 completed cleanups a year;[94] from 2000-2006, the number of site cleanups dropped from 87 to 40. Then, another drop occurred with only 24 site cleanups in 2007 and 30 in 2008. During the Obama Administration, completed cleanups have dropped even further from 20 in 2009 to only 8 in 2014, a decrease of more than 90% compared to the 1997-2000 time period, as shown in Table 3.

The number of sites where cleanup action has started has also decreased dramatically. As stated in the 2015 GAO report,[95]

"Because EPA prioritizes funding work that is ongoing, the decline in funding led EPA to delay the start of about one-third of the new remedial action projects that were ready to begin in a given fiscal year at nonfederal NPL sites from fiscal years 1999 to 2013."

Table 2 - Site Names & Locations of Unfunded Superfund Sites[96] in 2014

- Diaz Chemical Corporation
  Holley, NY
- Radiation Technology, Inc.
  Rockaway Township, NJ
- Syncon Resins
  South Kearney, NJ
- Sharon Steel Corporation Farrell Works Disposal Area
  Mercer County, PA
- Eagle Zinc
  Hillsboro, IL

Table 3 – Number of Site Completed Superfund Cleanups[97]

Fiscal Year	# of Site Cleanups
1997	88
1998	87
1999	85
2000	87
2001	47
2002	42
2003	40
2004	40
2005	40
2006	40
2007	24
2008	30
2009	20
2010	18
2011	22
2012	22
2013	14
2014	8

A 2007 study by the Center for Public Integrity found that cleanup work started at only 145 sites during the six-year period from 2001 to 2007, compared to a start-up rate nearly three times greater for the previous six years.[98] The study also found that EPA officials said that they have had to delay needed work at some hazardous waste sites, use rapidly dwindling money left over from other cleanups, and resort to cheaper, less effective remedies.[99]

These findings can be corroborated by people living near Superfund sites across the country. A number of sites are in a 'holding' pattern and have been kept on the Superfund National Priorities List with little or no action for years. EPA claims the slowdown is a result of the diminished purchasing power of Superfund dollars as the problem sites have become more complex and costly to clean. In fact, from 1999 to 2013, EPA spent most of its allotted cleanup funds on an average of just 18 sites each year.[100]

However, the complexity of Superfund sites has not changed dramatically enough to warrant more than a 90 percent reduction in cleanups since the 1999-2000 time period. Instead, the Superfund slowdown is the result of an ailing, underfunded program. As GAO stated in its report, the median per-site annual expenditures declined by about 48 percent for the fiscal years from 1999 through 2013. "The decline was more pronounced in recent years, decreasing by about 35 percent from fiscal years 2009 through 2013."[101]

Compounding the Superfund slowdown problem is the addition of new sites every year. In its initial surveys EPA identified over 47,000 potentially hazardous waste sites and continues to discover new sites.[102] During the 15 year period from 1999 to 2013, a total of 304 nonfederal sites were added to the NPL, an average of 20 sites per year.[103] As EPA continuous to add more sites to the program, it continues to face a thinning of funds, exacerbating the agency's already slow annual remediation schedule and leaving more sites unfunded and unaddressed.

Furthermore, the problem of recalcitrant polluters has escalated because of the funding shortfall. Negotiation between the EPA and polluters over cleanup costs are lengthy, sometimes lasting for years. In the 1990s, Superfund had the capital to pay up front for a site cleanup when faced with a noncompliant polluter. Post-cleanup, EPA could file cost-recovery actions against a polluter to recover the money taken from the fund to pay for the cleanup, hereby prioritizing human health over prolonged bargaining. The Superfund law gives EPA the authority to collect as much as triple damages from polluters in court (see Chapter 7). Faced with the threat of a cost recovery action, polluters were more likely to agree to fund cleanups.[104]

Now, corporate polluters realize that EPA does not have the funds to threaten them with a lawsuit because they know that the agency cannot pay upfront for the cleanups and try to recover its cost through the courts. This greatly weakens EPA's enforcement powers. Furthermore, SARA required cleanups at Superfund sites to employ permanent remedies whenever possible.[105] With less financial resources, EPA is less likely to choose permanent remedies that are more inherently thorough and complete, but are more costly.

Chapter 9

Dealing With A Superflawed Program

Unfortunately, there is no foolproof system for getting what you want from the Superfund program. While some communities have found that it has helped them get hazardous waste sites cleaned up, others have found it a complete failure. In order to stand any chance of receiving an effective cleanup, you really have only one option: organize and participate!

Most Superfund veterans agree that the key to getting any kind of successful result from the Superfund program is for citizens to get involved and organize themselves as effectively as possible and milk the public participation provisions in the law for all they are worth. Barbara Miller of PAC in Kellogg, Idaho, said that "only when community voices are heard do we get action from EPA." Penny Newman, of Concerned Neighbors in Action at the Stringfellow Acid Pits site in Glen Avon, California, agrees that the process has only been successful in "communities that have forced the system to do what needs to be done, regardless of what the law says."[106] Newman, who now leads the Center for Community Action and Environmental Justice, in nearby Riverside, CA, emphasizes that whether or not the site in your community is on the Superfund list, your success in getting it cleaned up will depend most of all on how well-organized your community is.

Keys to Successful Organizing

Getting organized involves four basic steps:

1. Forming a group (give yourself a catchy name).
2. Deciding what you want (defining your goals).
3. Identifying who can give you what you want.
4. Developing strategies that target the decision-makers who have the power to give you what you want.
5. GO AFTER IT!

Although we won't go into much detail here about strategies for organizing, we will point out that there are a couple of things that make community organizing at a Superfund site distinctive. First of all, the law is unique in that it *requires the government to deal with the community and lays down specific guidelines for public participation*. The more aware you are of these provisions for community involvement, the more your group will be able to use them to your advantage. Another significant characteristic of Superfund is the availability of funds for technical assistance. If you live near a Superfund remedial action site, your community is entitled to a Technical Assistance Grant, which can be one of the strongest weapons in your arsenal *(see Chapter 4)*.

Of all the resources available to you in your struggle, the most helpful and powerful resources by far will be the members of your own community. Longtime residents know more than anyone else about the history of the community, and they often have the most useful information about where the pollution is, when it started, and who caused it. In combination with their expertise, the unique skills, knowledge, and energy that each individual member of your community can bring to your organization are likely to serve your purpose far better than any document or regulation or government official.

It's important to be involved in the decision-making process as early as possible. If you wait until the site assessment studies are done, chances are, it will be too late. Deciding what you want done at the site is the key to making it happen. One of the best ways to get started is to hold a series of neighborhood meetings to develop (and continually refine) a "neighborhood platform" for cleanup. The idea is to build spirit in the community that (a) makes it clear that you're smart enough and sensible enough to figure out what needs to be done; (b) sends the message to the polluters and the environment agencies that you're serious and that you expect **them** to respond to **you**, that you're not going to react to them; and (c) as the victim of the contaminated site, you need to be part of who decides what needs to be done to restore the neighborhood – it's up to them to meet your standards with a plan that identifies how the job will be done.

Your first neighborhood meeting on cleanup will probably produce only a broad set of cleanup goals. That's fine. As you hold more meetings, people will start getting into it – they'll do their own research, start building ownership and confidence and will gradually develop a more sophisticated cleanup plan. No doubt they'll get into such details as "How clean is clean?", goals and standards, safety plan features, as well as choice of cleanup technologies. But, most importantly, they will feel an investment in seeing their plan adopted and will likely be more united in wanting prompt action. The history of all cleanup actions – Superfund, responsible party, state action, etc, - shows that the best and fastest cleanup comes when the residents are well organized and pushing their needs through effective action.

At some contaminated sites, a good "cleanup" just isn't possible. Leaders then agonize over the prospect of relocation. After all, if the site can't be cleaned up, isn't it only logical that you should be relocated? As sensible as this conclusion is, people get very upset the first time it's brought up. Being forced to leave your home because some toxic polluter destroyed the environment beyond repair is traumatic. However, if you've gotten your neighbors involved in the cleanup plans from

the beginning, that should reduce the stress. They too, will know when you've reached the stage where relocation is the only viable option.

Decisions at contaminated sites are 90% politics and 10% science/engineering. The way to win the "cleanup game" is to write your own set of rules. Otherwise, it's like playing gin rummy and letting your opponent keep changing how the game is played. Pulling your neighbors together from the start is the best way to make sure the polluters and the agencies take you seriously.

For more tips on organizing groups, refer to:
1. CHEJ's Organizing Handbook
2. CHEJ's Fight to Win Manual

Consider Alternatives to the Federal Program

Superfund is not the only program for cleaning up hazardous waste sites. Many states have their own state-run Superfund programs, and the EPA generally passes on as many cleanup jobs as it can to them. Some activists have found that communities may be better off in state programs. It is much more likely, for instance, in strong state programs that communities will have more access to legislators and agencies who have the power to make crucial decisions. In addition, state cleanups sometimes proceed more quickly, with more attention to the concerns and needs of community residents.

Some communities have found alternatives to the EPA's Technical Assistance Grant program, seeking funding for technical advisors from (1) state governments (concerned Neighbors in Action in Riverside, California); (2) private foundations (The Clark Fork Coalition in Missoula, Montana); or (3) the polluters themselves (Ciba-Geigy in Toms River, New Jersey).

But be careful: there are down sides to smaller Superfund programs as well. For one thing, even the best state programs are not nearly as well funded as the federal program, and tribal governments usually have even fewer resources. Few states can afford Technical Assistance Grants. In addition, as mentioned previously, state Superfund programs vary widely as to their provisions for public participation and their standards for stringency. Some states have stronger provisions and standards than the U.S. EPA, but many others have weaker guidelines.

Fixing Superfund: The View From The Grassroots

Community organizations with firsthand experience of the Superfund cleanup process have been active and vocal in their efforts to improve the implementation of CERCLA. One of the leaders in this work was Communities at Risk (CAR)-- a project of the Center for Community Action and Environmental Justice in Riverside California. A nationwide network of Superfund communities and other communities that struggled with contamination, CAR developed a "People's Agenda on Superfund" to represent the needs of communities in the ongoing debate about Superfund.

Originally forged in July 1993, the People's Agenda was updated in September 1995 and discussed at a Roundtable conference in October 1997. Activists at the conference developed a list of 10 Principles for Superfund reform that it has presented to legislators and EPA officials (see Appendix D). Though CAR is no longer active, the platform they developed is still relevant.

The Communities at Risk Platform

CAR focused on six areas of concern: Funding and Liability, Cleanup Standards, Citizen Involvement, Health, Hazardous Ranking System and Site Prioritization, and The Role of Tribal and State Governments.

1. Funding and Liability

The platform calls for a tough stance on corporate polluters, demanding the preservation of strict joint and several, and retroactive liability and strong enforcement practices. It demands that the tax on industry should continue to be the prime source of revenue for the Superfund Trust Fund and that responsible parties should be punished when their litigation holds up the cleanup process. It calls for such responsible parties to pay punitive damages to communities in addition to the cost of cleanups, and it demands that the owners of any facility dealing in hazardous waste (and therefore subject to the provisions of the Resources Conservation and Recovery act of 1976) post bonds that would cover the cost of cleaning up the facility should it close.

2. Cleanup Standards and Remedy Selection

The platform calls for a consistent, safe, and stringent national standard for all removal and remedial actions. It insists that polluters be held liable for damage their waste inflictions on national resources, asks for full community participation in cleanups, and urges the EPA to hire local labor in cleanup actions.

3. Citizen Involvement

The platform demands that EPA do the following: open all parts of the cleanup process to public participation, establish democratically-elected citizens advisory boards, expand and improve the TAG program, ensure that its staff representatives maintain effective and helpful relations with affected communities, reimburse permanently relocated families with replacement values of their homes rather than “fair market” values, and establish a Citizen Access Unit in each state to provide communities with information they need to participate in the Superfund process.

4. Health

The platform calls for establishing clinics in Superfund communities, replacing the ATSDR with a new independent agency, appropriating portions of the budget of the National Institute for Environmental Health Science for the study of health problems associated with exposure to toxic substances, and eliminating risk assessments and comparative risk studies.

5. Hazard Ranking System and Site Prioritization

The platform calls for a revised Hazard Ranking System that takes into account a wider variety of factors, including vapor intrusion, and emphasizes potential negative health and environmental effects, equitable scoring systems that do not result in bias on the basis of race or class, and the elimination of a maximum limit of the number of sites in the NPL.

6. The Role of Tribal and State Governments

The platform demands that the EPA turn over projects to state governments only when the state has the resources to perform adequate cleanups and that the U.S. Government help people develop and fund cleanup programs for tribal governments.

7. Brownfields and Greenfields

All sites should be cleaned up entirely, and industrial redevelopment on a Superfund site should require community consensus.

8. Federal Facilities

All of the above provisions should apply to federal facilities.[107]

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Appendix B: Resources

Superfund Site Identification
National Response Center hotline:
1-800-424-8802

CHEJ's Community Right-to-Know Guidebook
Using Your Right to Know, by Stephen Lester, Brian Lipsett, Karen Stults and Abigail Esplana. CHEJ, 2016. Available from CHEJ at http://chej.org/publications/rtk/

CHEJ's Relocation Guidebook
Relocation: Getting Organized and Getting Out (Go Go), by Center for Health, Environment & Justice. CHEJ: 2013. Available from CHEJ at http://chej.org/publications/relocation-getting-organized-and-getting-out-go-go/

CHEJ's Organizing Handbook
Organizing Handbook: How to Build a Strong Organization and Define Winning Strategies.), by Center for Health, Environment & Justice. CHEJ: 2010. Available from CHEJ at http://chej.org/publications/organizing-handbook/

CHEJ's Fight to Win Manual
Fight to Win: A Leader's Manual, by Center for Health, Environment & Justice. CHEJ: 2009. Available form CHEJ at http://chej.org/publications/fight-to-win-leadership-handbook/

Technical Assistance Grants (TAGs)
Technical Assistance Grants: A User's Guide (The Art of Getting, Using, and Controlling Your Expert), by Stephen Lester and Penny Newman. CCHW: 1989. Available from CHEJ.

The TAG Network. (Newsletter: Strength Through Unity). c/o FSDWAC for Environmental Concern, Inc., 819 West Third Street South, Fulton, NY 13069. (315) 592-9731.

General Superfund Information
Superfund Hotline: (800)-424-9346

EPA's website (http://www.epa.gov/superfund) contains quite a bit of useful, up-to-date information about the program and how it works.

Superfund Information
The products described are available free of charge from the U.S. Environmental Protection Agency's Superfund program. If you have questions about the Superfund Program, call the Superfund Information Hotline at (800)-424-9346.

Common Chemicals Found at Superfund Sites

Contains on-page fact sheets that outline the various chemicals present at hazardous waste sites in clear and easy-to-understand language. The booklet can be used in its entirety or as separate fact sheets. Available online.

Common Cleanup Methods at Superfund Sites

Contains one-page fact sheets that outline the various cleanup methods used at hazardous waste sites in clear and easy-to-understand language. The booklet can be used in its entirety or as separate fact sheets. Available online.

Guide to Environmental Issues

Provides citizens with information about EPA's programs, environmental laws, and where to go for information. Available online.

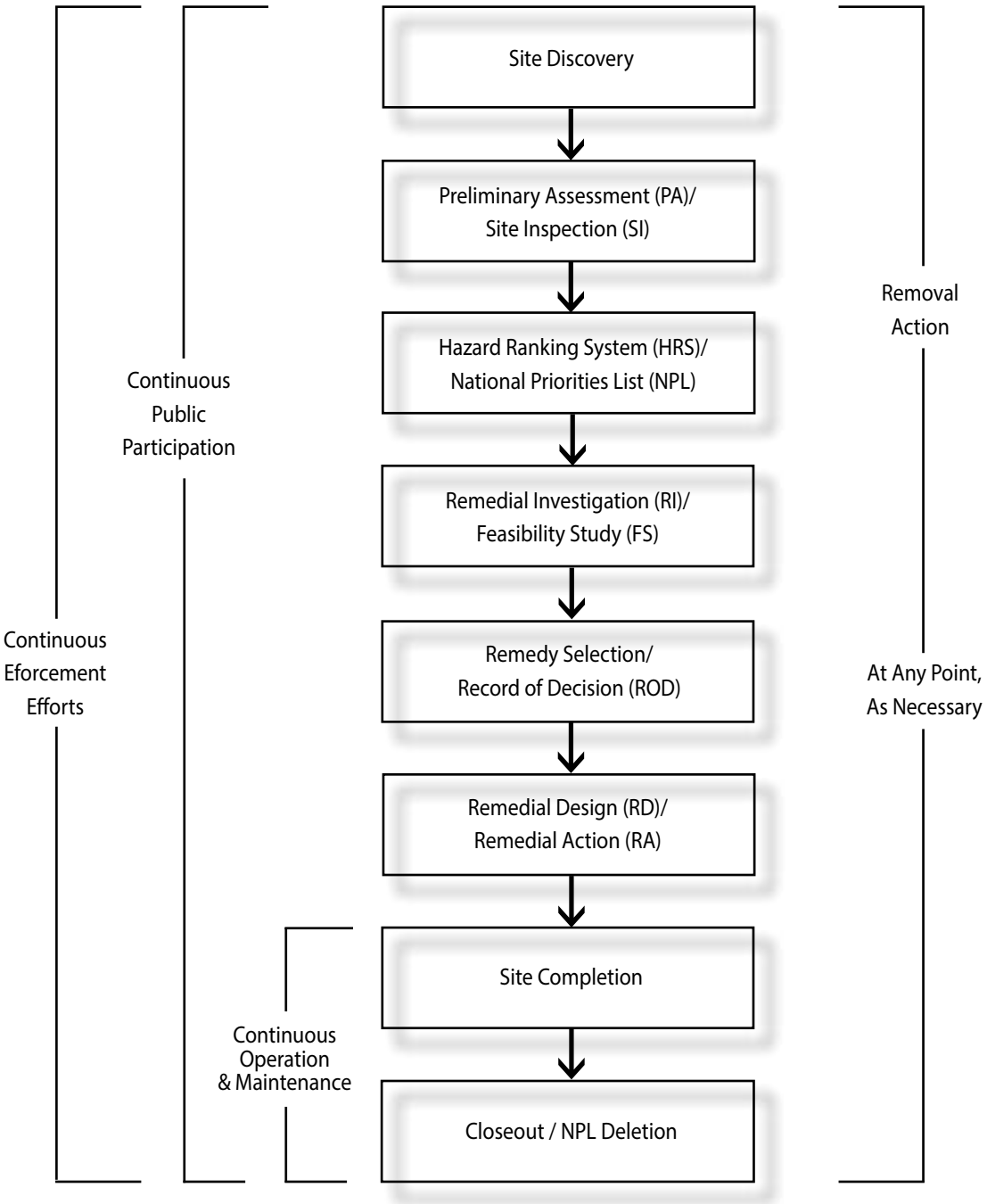
Haz-Ed: Classroom Activities for Understanding Hazardous Waste

Interactive classroom activities for 7-12th grades focusing on a variety of hazardous waste issues and the Superfund program. Available online.

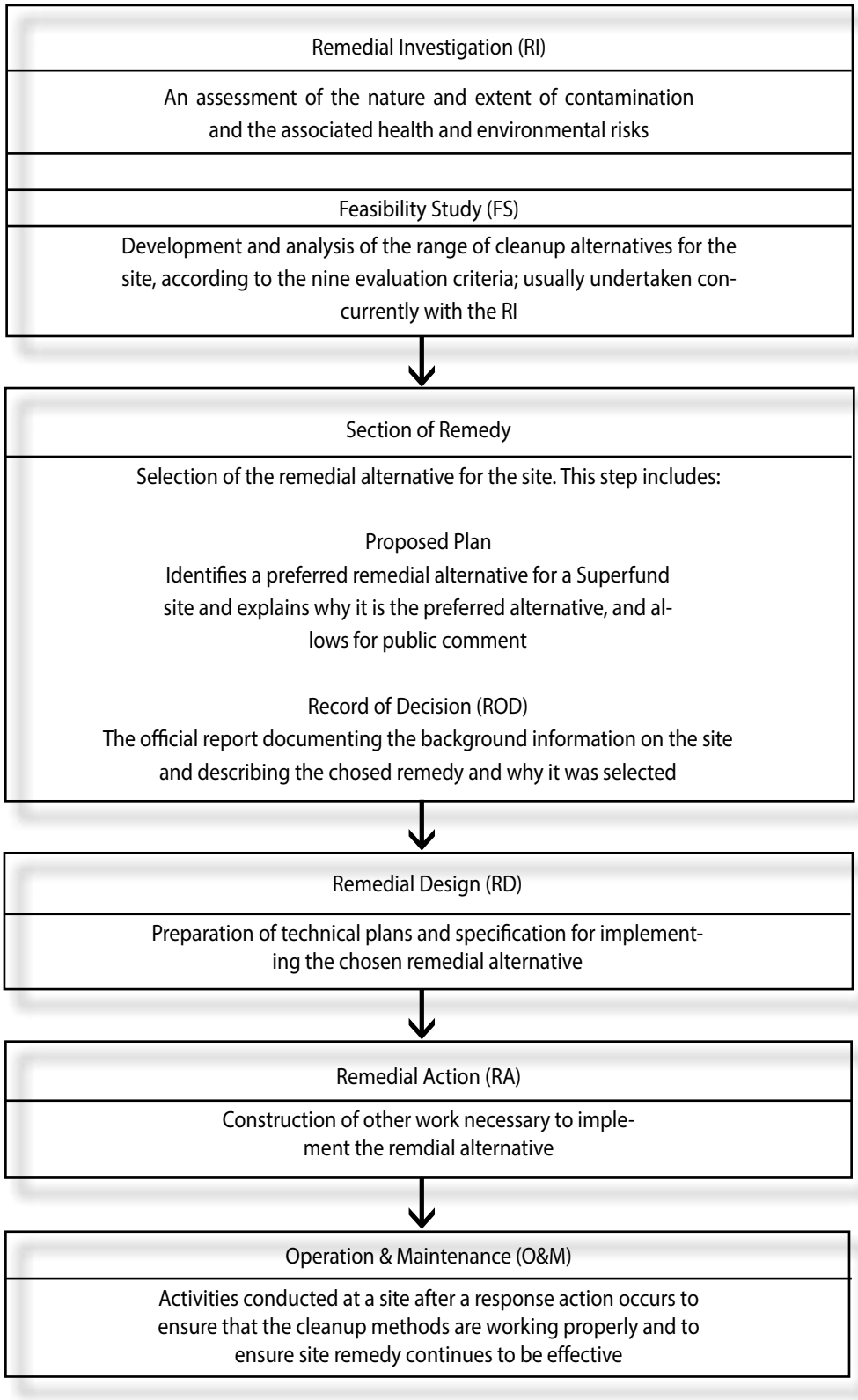
Hazardous Waste: Cleanup and Prevention Poster

Colorful cartoon illustration of various hazardous waste and Superfund scenarios with explanations and classroom activities on the reverse side. Order by title by calling 1-800-435-7627.

Appendix C: The Superfund Process



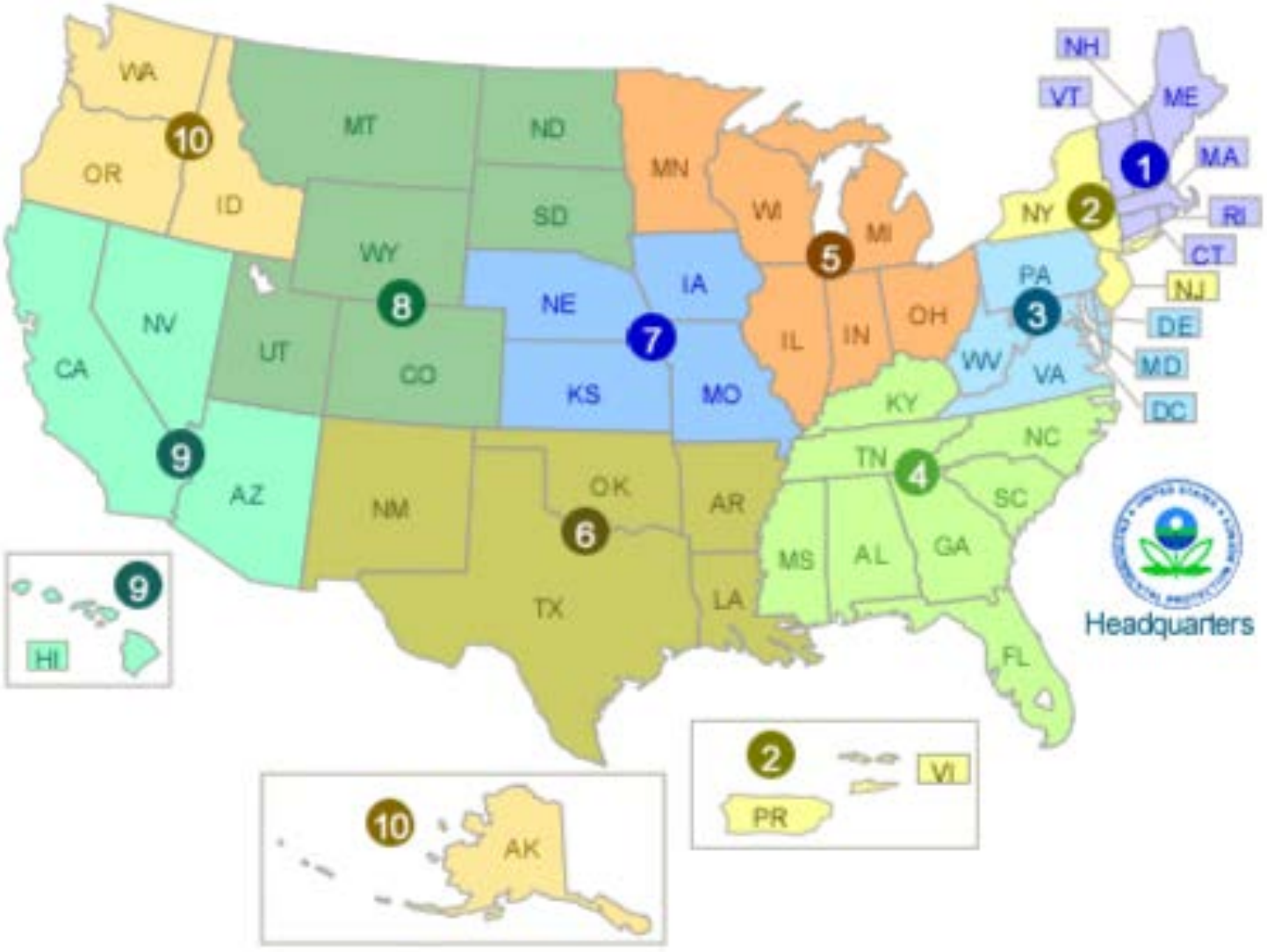
The Remedial Process

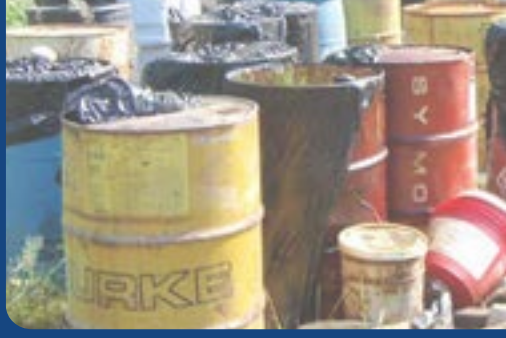


Appendix D: EPA Regional Office Directory

Region 1	Region 6
EPA New England Headquarters 5 Post Office Square - Suite 100 Boston, MA 02109-3912 888-372-7341	US EPA Region 6 Fountain Place 1445 Ross Ave. Dallas, TX 75202-2750 (800) 887-6063 (214) 665-2760 if calling from outside Region 6
Region 2	Region 7
Main Regional Office 290 Broadway New York, NY 10007-1866	11201 Renner Blvd. Lenexa, KS 66219 913-551-7003
Region 3	Region 8
US EPA Region 3 1650 Arch Street Philadelphia, PA 19103-2029 800-438-2474	1595 Wynkoop Street Denver, CO 80202 303-312-6312
Region 4	Region 9
US EPA Region 4 Sam Nunn Atlanta Federal Center (SNAFC) 61 Forsyth Street SW Atlanta, GA 30303-8960 800-241-1754	75 Hawthorne Street San Francisco, CA, 94105
Region 5	Region 10
US EPA Region 5 Ralph Metcalfe Federal Building 77 West Jackson Blvd. Chicago, IL 60604 312-353-2000	EPA Region 10 1200 6th Ave. Seattle, WA 98101 800-424-4372 or 206-553-1200

States by EPA Region





"CHEJ is the strongest environmental organization today – the one that is making the greatest impact on changing the way our society does business."

Ralph Nader

"CHEJ has been a pioneer nationally in alerting parents to the environmental hazards that can affect the health of their children."

New York, New York

"Again, thank you for all that you do for us out here. I would have given up a long time ago if I had not connected with CHEJ!"

Claremont, New Hampshire

CHEJ

Center for Health, Environment & Justice
P.O. Box 6806, Falls Church, VA 22040-6806
703-237-2249 chej@chej.org www.chej.org