

“**S**uperfund has been a disaster.”  
—President Bill Clinton<sup>1</sup>

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**LOVE CANAL—THE BEGINNING**

**N**early twenty years ago, homeowners around Love Canal, an abandoned waste site in Niagara Falls, New York, found chemicals leaking into their homes. Crude health studies suggested that the chemicals might have caused serious diseases and genetic problems. The State of New York declared a public health emergency. Soon, Love Canal, “toxic waste,” and “ticking time bombs” became household words.

Ultimately, the entire neighborhood was abandoned, by government decree. Two hundred-thirty-seven homes were bulldozed, along with a school.<sup>2</sup> Ironically, no scientifically credible evidence has ever shown that the health of residents was harmed by the chemical exposures, or that the massive disruption, relocation and cleanup prevented any serious health problems.<sup>3</sup>

Although the Love Canal episode has largely ended for those residents, it has left a legacy that affects all Americans. That legacy is Superfund, a government program passed by Congress in 1980 to deal with similar waste sites. The Love Canal situation stimulated passage of the Comprehensive Environmental Response

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Compensation and Liability Act (CERCLA), the law creating Superfund.

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### THE SUPERFUND PROGRAM: PLAGUED WITH PROBLEMS

Superfund was supposed to be a short, swift program to cleanse the nation of dangerous hazardous waste sites like Love Canal. It was to cost at most a few billion dollars and would be paid for mainly by those whose pollution caused serious harms or risks.

But after fifteen years of activity, cleanup is still slow. High costs and litigation plague the program.

- At the end of 1995, 91 sites had been cleaned up, but 1,374 sites remained.<sup>4</sup>
- Since 1980, the EPA has spent \$14.9 billion on the program. And the EPA says that private companies are now spending an additional \$1.3 to \$1.4 billion per year on Superfund cleanups.<sup>5</sup>
- In 1992, the EPA reported that its overhead costs in 1988 were more than \$328 for every hour of work performed by an individual, normally a contractor's employee, in cleaning up a site. (That is \$410 in 1994 dollars.) This does not include the wage or the overhead cost charged by the contractor.<sup>6</sup>
- According to the Rand Corporation, legal and other transaction costs accounted for 32 percent of total expenditures.<sup>7</sup>

Many people touched by the program are harmed, including those it is supposed to help.

- Designation as a Superfund site causes property values to fall. Residents may be forced to move away, at least tempo-

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rarily. People may be badly frightened for no good reason.

- The firms required to pay for the cleanups have little chance to defend themselves against being billed enormous sums, and the EPA doesn't even have to prove that there is a health risk from the site, but only that its own decisions were not arbitrary or capricious.
- Investors and banks often refuse to lend money for development of Superfund sites or sites that might have Superfund liability attached to them. They reject these "brownfields" for untouched "greenfields" in the suburbs, far from the inner-city people who need jobs, and often beyond the boundaries of cities that need a tax base.
- Even EPA Administrator Carol Browner, supervisor of the program in the Clinton administration, has criticized the program as one that "frequently moves too slowly, cleans up too little, has an unfair liability scheme and costs too much."<sup>8</sup>

The purpose of this paper is to assess what went wrong with Superfund and to recommend ways to solve the problems. In doing so, I hope also to shed light on the problems that affect other programs that the Environmental Protection Agency administers to reduce pollution.

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**CONGRESS REJECTS THE PAST**

**T**he strongest complaints about Superfund have been that few sites have been cleaned up, too much is spent on lawyers and administrative costs, and cleanups are too costly. These are legitimate complaints, but problems of this sort with government programs are not unusual. Such programs are rarely labeled "a disaster" by the President. Why is Superfund different?

Superfund is different because it has released EPA and Super-

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fund managers from the restraints that hold back most government programs. The EPA can spend potentially unlimited sums of money on cleaning up sites, with little responsibility to back its decision with evidence of serious harm or risk. The EPA must follow procedures such as notifying potentially responsible parties of its actions and accepting public comment. But there is no impartial review of EPA decisions. Courts can only decide if officials are following these procedures and consider whether they have been arbitrary or capricious. In addition, three special taxes raise money earmarked for Superfund. Superfund is not restrained by the checks and balances that normally characterize government.

Superfund was enacted in an atmosphere of crisis. The rights of the people living near Love Canal had been violated. But Congress never examined who was actually at fault—who had allowed the release of chemicals to occur, what the health risks really were, what the remedy should be, or who should pay for it. Indeed, the supposed perpetrator, Hooker Chemical Company, had acted quite responsibly. But this wasn't widely known until several years later, and even today is largely ignored in retrospective commentaries on Love Canal.<sup>9</sup> Hooker's parent company, Occidental Chemical Corp., paid \$129 million for the cleanup and relocation costs.

The people of Love Canal, like others exposed to hazardous waste, had remedies available. The traditional way of dealing with such harm was to go to court under common law to force the owner of the site to clean it and to pay for damages already done. Lawsuits over environmental damage were on record across the nation, and orders from judges to pay damages and stop harmful behavior were not uncommon.

In the tumult of publicity and pressure, however, this history was rejected. One reason was a growing dissatisfaction with the common-law approach. Critics claimed that the common law could not deal with hazardous wastes for these reasons:<sup>10</sup>

- *Demand for Proof.* Judges and juries tended toward denial of relief where the damage was “speculative” or “uncertain.” They had to be convinced that a serious harm, or

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risk of harm, existed, and that it had been caused by the action that was to be stopped or the contamination to be remedied. Suspicion and accusations were not enough.

- *Inconsistency.* Different courts, acting in different jurisdictions or at different times, would not always provide consistent decisions.
- *Protection of Private Parties, not the Public.* Private common-law litigation was primarily aimed at protecting individuals or specific groups, not the general public, from specific pollution problems.
- *Costly Litigation.* Lawsuits were expensive.
- *Uncertainty and Technical Complexity.* In technically complex cases, some judges preferred to transfer the problem to state and federal agencies.

Given these limitations, many people had concluded that the courts could not address illnesses such as cancer. Such diseases could be triggered at one point in time but not actually appear until many years later. And the link between chemical exposures and disease might be “probabilistic” rather than clear.

Each of these complaints had some basis in fact. Common law was clearly imperfect.

Another factor propelling congressional action was fear that the person who created a dangerous site might not be found, or might be insolvent. Love Canal was clearly owned by the city of Niagara Falls. Hooker Chemical, which had put wastes inside the canal, had turned over the deed to the local school board in 1953. In 1960 the school board deeded the land to the city. But the idea that Hooker had somehow “abandoned” the site remained an integral part of the Love Canal story. It fueled pressure to do something about “abandoned” or “orphan” sites.

The residents of Love Canal, and their supporters, were in no mood for lengthy court proceedings. They had “scientific” evidence

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suggesting causal connections between the chemicals and serious health maladies. This evidence was seriously flawed;<sup>11</sup> it did not show a causal link between the harms and the chemicals. But residents believed it did. The New York Department of Health had called Love Canal a “public health time bomb.”<sup>12</sup> A panel created by the governor of New York called it a “public health emergency” (although it did so in order to qualify the area for more state funds).<sup>13</sup> New York Congressman Jack Kemp referred to toxic wastes as “among the deadliest of silent killers in this country.”<sup>14</sup>

Congress pulled out all the stops. It had a ready villain—corporate polluters—to attack, and speed was to be the order of the day. The fine points of legal proof would not stand in the way of saving lives. As the U.S. Court of Appeals for the 5th Circuit later said, “Shooting first and asking questions later was the intent of Congress.”<sup>15</sup>

CERCLA,<sup>16</sup> the law that resulted from this imbroglio, created a \$1.6 billion fund to clean up existing sites over a five-year period. The fund was financed primarily by establishing taxes on the oil and chemical industries, rather than from congressional appropriations from general revenues. The law also placed liability for the cost of cleanup on those who had some connection to the contaminated site. Companies that had produced waste that ended up in the site could be liable for cleanup, even if they had not placed contaminants at the site, even if their actions had not been illegal when they occurred, and even if no actual harm or clear evidence of serious risk to people in the vicinity was present.

The law exempted the EPA from judicial oversight except at a few points in the Superfund process. Even at those points, those accused (the “potentially responsible parties” or PRPs) could reduce their financial burden only if they could prove that EPA decisions had been arbitrary or capricious.

The law also included a plan for short-term emergency removals of waste to avert an apparent and immediate danger. They were limited to one year in duration, and \$1 million in cost (later increased to \$2 million), although more than one removal action can be ordered at a site. This portion of the Superfund program is relatively small and typically receives little attention, yet it may

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remove most of the danger actually present at a site. In fact, it is often praised by outside observers.<sup>17</sup>

The grand achievement envisioned for Superfund did not materialize. Five years after the law was passed, many of the initially listed sites were still in limbo and a large backlog of additional sites was building up. So the Superfund Amendments and Reauthorization Act (SARA) was passed in 1986. It authorized an additional \$8.5 billion in special industry taxes and attempted to streamline the Superfund process by narrowing the discretion of EPA's leadership. For example, SARA required stringent drinking water standards to be applied as cleanup standards, even when the water is not expected to be drunk. And Congress strengthened the provisions that made it difficult to obtain judicial review of the EPA's decisions.<sup>18</sup>

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**NOT INCOMPETENCE BUT POOR CHOICES**

**W**hen government programs run into trouble, as Superfund has, observers are quick to assume that incompetent or wrong-headed people are the cause. Critics blamed the Reagan administration. The Superfund law had been passed by a lame-duck Congress at the end of the Carter administration, and Congress had delegated to the EPA many difficult decisions, such as how sites would be chosen, how risks would be assessed, and how thorough cleanups should be. Since the Reagan administration, rhetorically at least, was committed to deregulation, Superfund supporters suspected that the administration would try to undermine the program.

The fundamental problems of Superfund, however, stem from decisions made in Congress before the Reagan administration arrived, and from implementation by intelligent, highly motivated individuals, most of them acting in good faith. The troublesome results reflect several incentive and information problems built into our governmental system, but exaggerated by the absence of the discipline normally provided by the budget process and the checks and balances that control other government programs.

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### “POLLUTER PAYS” IS VIOLATED

Superfund was sold to Congress on the principle of “polluter pays.” Cleanup of dangerous waste sites would be paid for by those responsible for the problem. But this principle is routinely violated.

- The three taxes that pay for the administration of the program (a chemical tax, a petroleum tax, and an environmental income tax on large firms) violate the concept. Companies that may have never contaminated any waste site requiring cleanup must pay the tax. A firm that found a way to produce the same products with no pollution whatever would still pay the same amount of tax. Production, not pollution, is taxed. Furthermore, the paperwork costs are very high.<sup>19</sup>
- The EPA treats accused polluters, or “potentially responsible parties,” as wrongdoers. These are the parties, usually firms, that must pay cleanup costs if they can be found. Yet the EPA has no responsibility to prove that they were guilty of wrongdoing, that they polluted the site in question, or even that serious risk from pollution exists.
- To determine whether a site must be cleaned up, EPA uses seriously biased estimates of risks. The EPA does not have to provide proof that the contamination in a Superfund site is posing harm—or even serious risk of harm—to anyone nearby. It can order cleanups and force payment for them without showing (or even claiming) that the health benefits from the cleanups will outweigh the costs, or that the benefits will be attained at the lowest possible cost.
- Accused parties can do little to challenge the EPA’s decisions, except at the very end of the remediation process (typically expected to be 12 years). Even then, the burden is on them to prove that the EPA has acted arbitrarily or



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capriciously or has violated its own procedures as listed in its National Contingency Plan. Sometimes so little risk is present to begin with that the cleanup itself may introduce more risk than it removes.

There is, in other words, little restraint on what the manager of a Superfund site can order and then require “potentially responsible parties” to pay for. Even if the payments demanded are unreasonable, or they pay for unnecessary actions, the EPA has stated clearly that the companies must pay them. In 1992, in a *Federal Register* statement, the EPA said that defendants ordered to pay Superfund costs “cannot avoid payment of United States’ costs on the grounds that such costs are ‘unnecessary’ or ‘unreasonable.’”<sup>20</sup> And there is no dollar limit on the cost of cleaning up any site.

So long as EPA follows the procedures it has written for itself, so that those forced to pay cannot prove that the EPA acted in an arbitrary or capricious manner, the Superfund site manager’s decisions will have the force of law. Those forced to pay have no recourse to substantive review. Former Assistant Attorney General Roger Marzulla put it well when he said, “With only slight exaggeration, one government lawyer has described a . . . [CERCLA] trial as requiring only that the Justice Department lawyer stand up and recite: ‘May it please the Court, I represent the government and therefore I win.’”<sup>21</sup>

In sum, the EPA can order a cleanup without having to show that:

- any harm or the serious threat of significant harm has been committed;
- any law was broken by those whom it forces to pay for cleanups;
- the chemical contamination was actually caused by the “responsible parties,” or even that
- the cleanup was necessary, or that it was done to a reasonable level or in a reasonable manner.

Congress replaced common-law concepts with nearly

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unchecked bureaucratic control. Congress allowed the EPA to judge liability and prescribe remedies without requiring evidence, and to recover its costs from those accused of pollution. And it drastically restricted the opportunity for those required to pay to have an independent legal review. So long as the EPA follows the procedures it wrote for itself, its orders are the law. Furthermore, it financed a large portion of the program through special industrial taxes, rather than the normal budget process.

During the months preceding the passage of the original Superfund law a few lone voices were heard questioning this abrogation of normal rights. Senator Alan Simpson, for example, said:

It does alarm me to see the tendency, with but a sweep of the drafter's pen, to simply brush off on the floor many of the rules of evidence which have been so closely crafted and observed in our procedural life as lawyers. . . . The rules are there for a purpose. They have "come through the fires" and have been tempered by litigation. They do work. Basic reason and common sense should be the impetus behind their revision—not simply frustration.<sup>22</sup>

But such voices were overcome by the stampede.

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### NO DUE PROCESS FOR "POLLUTERS"

A key duty of any national government is to protect its citizens from wrongful harms imposed by others. But the power to protect must be restrained, or else the protectors may themselves impose serious harms.

To convict an accused criminal, the government (the police and the prosecutor) must overcome a heavy burden of proof—guilt beyond a reasonable doubt—following strict rules of evidence. Civil suits under common law (the kind that traditionally would have been brought by Love Canal residents) require a lighter burden, but the case must still be proven. The plaintiff must show, by the preponderance of evidence, that the defendant has caused

harm, or undue risk of harm. The court will not order a remedy until it is convinced that the complaint against the defendant is more likely to be right than wrong.

As we have seen, *no* burden of proof and *no* rules of evidence exist to protect those accused as responsible parties in the Superfund process. To see why this is wrong, consider this thought experiment.

Suppose that a police department were allowed to decide who is guilty of sexual offenses or who might harbor tendencies that the police think pose a risk to others. Suppose that the police could require such individuals to take “remedial actions” (attending educational classes and costly, time-consuming counseling sessions, for example), all at their own expense. And suppose that the police were not required to obtain approval from a judge or jury and that the defendant could not demand a legal review of the police orders until all “remedial actions” were complete. Financial relief might be possible, but even that would be granted only upon proof that the police had acted in an arbitrary or capricious fashion. As long as they followed a system providing some “plausible connection” between the actions they ordered and some degree of increased public safety, the police would be vindicated.

Such a policy for dealing with an accused criminal, however serious the crime might be, would not be acceptable in the United States. Yet the above is a summary of how the EPA, under Superfund, treats those accused of contaminating sites. With Superfund, protections for those connected with a contaminated site were swept away. We should not be surprised that the Superfund program, operating much like the police in this thought experiment, leads to excesses.

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#### **RISK ASSESSMENTS—ON THE WILD SIDE**

**T**hese violations of traditional legal rights would have a much narrower impact if it weren't for the process that the EPA uses to determine the level of cleanup for a Superfund site. The EPA's risk assessment process uses assumptions and

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procedures that enormously magnify the possible risk from a site. By exaggerating the specified risk, the EPA ropes in sites where no balanced review of the evidence would justify costly remediation. Residents can be terrified or outraged and accused parties can be pressed into paying bills for expensive cleanups based on only speculative claims of risk. On average, each cleanup costs \$30 million. A more balanced and less biased risk assessment process of the sort that common law might require would lead to fewer fears by residents and fewer costly cleanups.

To launch these multi-million-dollar cleanups, the EPA does not have to prove that any harm exists. Instead, the EPA determines whether a *risk* of harm, either now or in the future, might be plausibly expected to exist for people living near the site or on it. The EPA procedures for estimating this risk are deliberately designed to be “conservative,” meaning that they are heavily weighted toward extra caution. They are deliberately designed to overstate the true risk—to be extra safe.

These extra margins of safety are piled one on top of another, causing serious distortion in the perception of risk by those who see the final risk estimates.<sup>23</sup> Consider how the EPA exaggerated the specified risks at one site, Idaho Pole, in Bozeman, Montana.

Sometime before 1978 pentachlorophenol (or PCP), a chemical used to treat wooden utility poles, was spilled at the Idaho Pole Company facility in Bozeman, Montana. To clean it up, EPA officials insisted on a plan that would cost \$9 million, a lot of money for a 33-acre site in a small Montana city.

People were understandably frightened. An EPA study of the Idaho Pole site said that

PCP is readily absorbed when it comes in contact with a person’s digestive or respiratory system or the skin. Exposure to large amounts of PCP in a short time may result in profuse sweating, fever, weight loss, gastrointestinal irritation, lung, eye, and liver and kidney damage. Longer-term effects include a higher incidence of low-grade infections and depressed kidney function. PCP has been recently identified as a probable human carcinogen.

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This statement was quoted in numerous front-page articles in the local newspaper.<sup>24</sup> Clearly, the implication is that the chemical is quite dangerous to people nearby.

But the laboratory tests used to assess PCP's carcinogenic effects exposed mice (not people) to between 50 and 400 times the amount of PCP that people might be exposed to at the Idaho Pole site, even using the EPA's extreme exposure assumptions.

And to determine the possible exposure of future residents, the EPA assumed that:

- The site will be used as a mobile home park. There is no reason to believe this would happen, especially since the local government would have to change the zoning.
- These hypothetical mobile home residents will not use the city water supply, even though it serves the site and is currently the source of water. Instead, the EPA assumes, the residents will drill private wells into contaminated water at the site, and drink only that water in their homes.
- These residents will consume 200 grams of contaminants every day throughout the year by eating home-grown produce, despite Montana's brief 90-day growing season.

The EPA made other conservative and questionable assumptions:

- To figure out how contaminated with PCP the area was, the EPA measured its concentration in the groundwater at a house where no one lives. In fact, it is owned by Idaho Pole Company. Yet the contamination at the site formed the basis for figuring out the levels that future residents might be exposed to.
- Fully half of the PCP exposure that the hypothetical residents would experience by water came from shower fumes. Yet PCP does not vaporize (and thus cannot be inhaled) at the boiling point of water, much less at the

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temperature of shower water.

- The EPA ignored the fact that even without human intervention, PCP is destroyed over time by microorganisms naturally present in soil and water. A publication of the EPA's own Office of Toxic Substances says that half of any PCP contamination present in water will be removed naturally every 20 to 200 days.<sup>25</sup> In other words, the PCP is being destroyed naturally at a rather rapid rate.
- Finally, the EPA claimed that a child living near the site faced more than a 50-50 chance (5.6 out of 10) of contracting cancer as a result of the site. But this claim was obsolete as soon as it was made. It was based on the existence of dioxin at the site, but the levels of dioxin were so low that the EPA officially eliminated them from consideration (they may have been a testing error). Yet the site report presented to Bozeman citizens continued to report this alarming risk estimate.

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### TUNNEL VISION—WHY AN AGENCY GOES TO EXTREMES

**Y**ou might think that responsible public servants would recognize that this exaggeration and the policies it encourages are costly, wasteful and counterproductive. But, for the most part, they do not. “Tunnel vision” comes into play.

Each government agency or bureau, including the EPA, is dedicated to a narrow mission. The EPA's mission is to protect against possible harm from pollution. It is not likely to weigh this mission against other agencies' goals. EPA officials are not likely to worry about whether spending more money reducing environmental risks means spending less on protecting endangered species. As Supreme Court Justice Stephen Breyer has put it,<sup>26</sup> each agency will have “tunnel vision.”

Agency officials will try to push beyond the point at which the broader public would—if the public were fully informed—want

them to stop. In Breyer's words, tunnel vision is a "classic administrative disease" that arises "when an agency so organizes or subdivides its tasks that each employee's individual conscientious performance effectively carries single-minded pursuit of a single goal too far, to the point where it brings about more harm than good."<sup>27</sup> In the environmental field, this pursuit, when unchecked, leads to standards that are so strict that meeting them demands enormous amounts of time, effort, and money that would be better spent somewhere else. Breyer calls this trying to achieve "the last 10 percent."<sup>28</sup>

EPA pursues the last 10 percent more than most agencies. The uncertainties associated with environmental damages—the same uncertainties that make common-law approaches to environmental problems difficult—allow enormous speculation about the potential benefits of reducing pollution. With other regulations, such as those designed to reduce traffic deaths or deaths from acute poisoning, the approximate number of potential victims is fairly easy to estimate. By contrast, knowledge about harms such as cancer from environmental pollution is extremely uncertain. The best scientific estimates to date indicate that only about 2 percent of all cancers in the U.S. are caused by pollutants.<sup>29</sup> However, the EPA can produce very large risk estimates by speculating about potential victims.

The Superfund program is especially prone to tunnel vision. The focus of the Superfund program is far narrower even than the mission of the EPA. The job of Superfund is to protect citizens and their property against harm from hazardous wastes. Superfund managers are likely to ignore the costs forced on those outside the program, even on the rest of the EPA, and, in some cases, even on those they are trying to help.

Sites in Triumph, Idaho, and Aspen, Colorado, illustrate the effects of tunnel vision. Mine tailings underlie much of the area of these towns. The EPA's conservative methodology predicts high levels of lead in the blood of the townspeople. However, after many years of living there, the residents' blood tests show no such result. In fact, lead levels are lower than the national average.<sup>30</sup> Nevertheless, in the face of strong local opposition, the EPA wants

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to clean up the sites, disrupting life in the towns for years. EPA contends that possibly in the future someone could be harmed by the lead and arsenic in these tailings. The EPA ignores the fact that the minerals are tied up in the mine tailings so that they are not very accessible to the residents, except when the tailings are disturbed and ground up or broken. (Using heavy equipment to remove the tailings would inevitably disturb the tailings, putting some of the ground-up dust into the air). Yet EPA officials have been adamant about the need for remediation.

As we have seen, Superfund risks are typically estimated by assuming that people live on the site or will move to the site and face “reasonable maximum exposure.” Imagined future exposures are an important part of the rationale for Superfund cleanup. A study of a sample of 77 Superfund sites revealed that more than 91 percent of the estimated cancer risk would accrue only to people who might move near the site in the future, not to actual individuals at the site.<sup>31</sup> Simply restricting the future use of contaminated land could avoid these exposures. By taking a very conservative approach and by imagining future activities that would maximize exposure to pollutants, a Superfund site risk assessment can make a mountain out of a pollution molehill.

Indeed, Superfund site managers have shown themselves willing to ignore orders from EPA headquarters. Alan Carpien, an EPA Superfund attorney for nearly the full life of the program, said in a letter to the *Washington Times* that even directives from the White House could not force Superfund managers to change their risk assessment procedures to include cost-benefit analysis.

From personal experience I know that my colleagues will continue to ignore risk-assessment guidelines, and high-level managers will not require subordinates to comply. Unless the law imposes legal obligations, EPA’s behavior will not change.<sup>32</sup>

A site manager may simply be trying to justify as many resources for cleanup as possible, to best protect the local people and their resources. The costs to the nation, even to EPA as an



agency, even to the Superfund program as a whole, become secondary to the protection at the site itself.

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### THE HIGH COST OF TUNNEL VISION

**T**unnel vision helps explain why the EPA produces its benefits—primarily health and safety—at very high cost. Just how high these costs are was shown by a recent study conducted by Tammy Tengs of Duke University and others. They examined 587 regulations and other programs designed to save lives, measuring the regulations in terms of the cost per life-year extended. (That is, if a regulation prevents the premature death of a person who would have died 10 years later of other causes, then it has preserved 10 life-years. A regulation that prevents the premature death of an infant expected to live a full 70 more years has preserved 70 life-years.)

On average, the cost of each life-year extended for a Federal Aviation Administration regulation was \$23,000. For Occupational Safety and Health Administration regulations designed to reduce fatal accidents, the average was \$88,000. But for the EPA, each environmental regulation cost \$7,600,000 for each additional life-year extended.<sup>33</sup> Superfund program regulations were not evaluated in this study (one reason is that the EPA does not even systematically estimate the risk reductions from Superfund). But if such estimates were made, we might expect even higher cost figures.

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### SOLVING THE SUPERFUND PROBLEM

**T**he Superfund “shortcut” has proven to be a disastrous departure from the legal principles and traditions developed over the past several centuries. This trampling of legal traditions and rights has caused the extensive and costly problems that virtually all observers have noted.

Solving these problems is not a matter of tinkering with

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Superfund rules or even just clarification by Congress of the goals of the program, although clarification will certainly be needed. Only with the restoration of checks and balances can the program's excesses be brought under control.

The following principles should guide reform:

- Polluters must stop ongoing pollution when the rights of others are being violated.
- The rights of a person are violated when that person is involuntarily subjected to levels of harm or risk that exceed those commonly tolerated from other activities imposing involuntary risks (such as operation of motor vehicles, communicable diseases, etc.).
- Polluters must pay for damages they have caused, and for cleanups necessary to avoid ongoing violations of the rights of others.
- Those who do not violate rights should not be singled out to pay for cleanups.
- Any agency that forces others to pay for cleanups must first prove responsibility for the pollution to be remedied, and prove that the ordered actions are justified. Those who demand their right to a judicial review should not be forced to prove that EPA has been arbitrary and capricious; nor should they be forced to pay punitive "treble damages" merely because they sought legal review and did not prevail.
- In truly emergency situations, public-works emergency removals may be justified but should be selected and administered by local and state governmental units.
- The right to an impartial judicial review should be available both to those accused of imposing harm or risk

and to those claiming to be victims of pollution or of risk.

- Local governments should be recognized as having primary responsibility for control of local hazardous waste problems.

To restore these principles, we recommend two kinds of changes. One is to return to a legal regime that protects victims and potential victims of pollution while also protecting innocent parties accused of causing harm. That means abolishing Superfund. A less ambitious step is to correct the excesses of Superfund by limiting the EPA's discretionary control, forcing it to adhere more closely to common-law principles.

### ***Back to the Common Law***

The common-law approach should not have been abandoned in 1980 when Superfund was enacted. The risks and harms from hazardous waste disposal sites are local, and, typically, only a few defendants are likely to actually cause harm or pose excessive risk. These factors make reliance on common-law courts appropriate at most hazardous waste sites.

People can obtain redress in the courts under common law for harm from such pollution. For example, courts have held companies and individuals liable for damage from oil that leaks from underground storage tanks.<sup>34</sup> A return to the common law would work as well as any principled approach can, given the uncertainty about the harms inflicted by hazardous waste.

When harm is alleged from a hazardous waste site, both possible victims and accused polluters should have their day in court. The rights of both should be protected, and the side favored by the preponderance of the evidence should win. Such a regime might result in fewer cleanups, but the sites not cleaned would be those where evidence of potential harm is lacking.

An advantage of the common law is that when protecting these rights imposes a costly cleanup duty on a polluter, there may be a way to make both parties better off. Suppose that the contamination

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threatens a neighbor's water well and remediation would cost \$2 million. The polluter has no right to pollute the water. But the neighbor could accept an offer to sell his or her right. Perhaps, instead of paying the \$2 million, the polluter offers to buy the neighbor's right to unpolluted water for \$1 million. This might be quite attractive to the neighbor. If it is not, the offer must be raised or the cleanup must be done. The point of this example is that when rights are clear, voluntary trades can reduce the cost to society of dealing with pollution.

Yes, common law is imperfect. Yet the shortcut that Superfund took around the problems with the common law has caused more problems than it cured. Consider how each of the five complaints against the common law listed on pages 4 and 5 have fared under Superfund:

- *Demand for Proof.* Superfund removed the requirement for proof of harm or undue risk based on rules of evidence and with the assurance of judicial review. This led to excesses by zealous bureaucrats pursuing their goals with tunnel vision.
- *Inconsistency.* Site managers under Superfund are only loosely controlled by EPA headquarters, which itself is subject to constant political pressure. No one claims that the thousands of potential cleanup sites are treated consistently.
- *Protection of Private Parties, not the Public.* Common law was indeed intended to protect private parties by dealing with specific pollution problems. But just as market transactions between individuals serve all the community, common-law remedies set precedents that protect the entire community.
- *Costly Litigation.* Superfund litigation is time-consuming and immensely expensive, drawing in parties who have only a peripheral connection with alleged harms and risks.

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- *Uncertainty and Technical Complexity.* Under Superfund, the uncertainty remains but is largely ignored. Speculation and suspicion are sufficient to justify the expenditure of tens of millions of dollars per site.

Common law remedies could be supplemented by an “emergency removals” program similar to the short-term program that Superfund operates today for genuine emergencies. It should be run by the state government, not the federal government, because the harms and the benefits of any site will nearly always be local, not national, in scope. If those in the jurisdiction receiving the benefits choose not to remediate, there is little reason why federal taxpayers should be asked to do so.

True emergencies at sites posing a large and immediate danger could be handled quickly. If the emergency removals did not correct the problem, more extensive cleanup could be ordered by a court or conducted as a local or state public works project, as funds are available.

Such remediation could be carried out more efficiently by the private sector. I have previously recommended<sup>35</sup> that Superfund sites for which no solvent responsible party exists be privatized. Some sites are potentially valuable enough to be sold to the highest bidder for cleanup or containment. In other cases, when the cost of necessary remediation exceeds the value of the property, the state or municipality could offer to pay a private owner to take over responsibility. Companies or individuals could bid; the lowest bidder would get the land.

The new owner would be liable for any damage caused to neighbors. The state or local government could also require the potential owner to post a bond, to make sure that neither government nor local residents are stuck with the cost of continued maintenance. The bond would be returned to the owner once the site was clean or permanently secure from leakage and offsite damage (the interest would accrue to the owner in the meantime).

### *Restraints on the EPA*

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While returning to common-law principles is the ideal, several smaller steps could change the Superfund program to reflect more of our common-law heritage, and thus impose the checks and balances needed to bring justice and rationality to the program. None of the prominently discussed proposals for amending Superfund does this. Specifically, Congress should:

- Return to the liability provisions that are normally reflected in common law. In some cases, these may include strict liability and joint and several liability. The burden of proof should be on those demanding remediation to show that the accused caused unacceptable harm, or risk of harm. Companies or individuals should not be required to pay for cleanups unless their actions violated the rights of others.
- Eliminate the three special taxes that support Superfund. They are not based on current or past pollution, and compliance is extremely costly relative to the revenues received. The EPA should compete with other government agencies through the normal congressional appropriations process to obtain money for dealing with hazardous wastes.
- Risk assessment procedures, when used to justify actions billed to others, should be reviewable in court. The EPA should report unbiased risk estimates, not just upper-bound estimates.
- At hazardous waste sites, the threshold for intolerable risks (that is, risks that must be reduced) should be similar to the threshold for other involuntary risks under regulation. Risks imposed on the public from carriers of contagious disease or from driving while impaired by known medical problems, for example, are comparable. Under current regulations, people on the ground face a risk of death from falling airplanes. That risk is low, and tolerated. Yet the EPA often sets standards of risk at Superfund sites that are

*Superfund: The Shortcut That Failed*

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tighter than this. It tries to make sure that a person near a Superfund site faces a risk of death from cancer that is even lower than the risk of a person on the ground dying from a falling airplane.

- Allow judicial review before remediation is imposed, and require the EPA to show by the preponderance of evidence that an unacceptable risk exists before starting remediation. Emergency removal should be subject to the more streamlined review typical of other emergency situations.

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### CONCLUSION

In sum, radical change in Superfund is vital. The Superfund “shortcut” is slow, often ineffective, inefficient and unjust. It is also breeding hatred and contempt for the very public policies and public servants whose goals are to protect citizens from harm. The actions of overreaching bureaucrats, however well-intended, are earning the scorn and the ire of many.

To restore respect for the public servants who are supposed to be protecting citizens, I recommend a return to the common law to solve problems stemming from chemicals and other substances at hazardous waste sites. The common law begins with justice, in the form of recognizing rights and requiring their protection. Efficiency comes second, as rights to locations and resources are traded in order to avoid both rights violations and unnecessary costs. When the pattern of rights is known from previous decisions, potential polluters are on notice and seek to avoid both liability and high-cost, after-the-fact fixes. They seek safer processes, better precautions, and safer locations for any risk that remains.

If such a restoration of rights is not feasible, then we must seek a close substitute: changes in the current Superfund program that will restore the rights normally guaranteed under our legal system. That means restoring judicial review, financing Superfund with congressional appropriations rather than special taxes not based on pollution, and revising the EPA’s risk assessment procedures (while allowing affected parties the right to judicial review of those procedures).

Such changes are essential if the Superfund program is to be effective, fair, and perceived as fair. Not only are the health and the wealth of the nation at stake; but the very legitimacy of our government is on the line.



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NOTES

1. *Los Angeles Times*, May 10, 1993.
2. See Andrew Danzo, "The Big Sleazy: Love Canal Ten Years Later," *Washington Monthly*, Sept. 1988, pp. 11–17, at 11.
3. See Aaron Wildavsky with Michelle Malkin, "Love Canal: Was There Evidence of Harm?" and Aaron Wildavsky with David Schleicher, "Superfund's Abandoned Hazardous Waste Sites," both in Wildavsky, *But Is It True?* (Cambridge: Harvard University Press, 1995), pp. 126–52 and 153–84.
4. Comptroller's office, Environmental Protection Agency, March 1996.
5. Comptroller's office, Environmental Protection Agency, April 1996.
6. See *Federal Register*, Vol. 57, No. 152, (August 6, 1992), at 34755. The indirect cost figure of \$406 was derived by taking the \$328.80, the simple average of costs across the ten regions, and updating to 1994 dollars using the CPI-U, all items.
7. Lloyd S. Dixon, Deborah S. Drezner and James K. Hammit, *Private-Sector Cleanup Expenditures and Transaction Costs at 18 Superfund Sites*, Rand Institute of Civil Justice, Santa Monica, CA, (1993), at 45.
8. Quoted in Peter B. Prestley, "Superfund in Limbo," *ABA Journal*, (June 1995), at 58.
9. See Eric Zuesse, "The Truth Seeps Out," *Reason*, Vol. 12, No. 10, (Feb. 1981).
10. These five points are presented in Christopher Harris, William L. Want, and Morris A. Ward, *Hazardous Waste: Confronting the Challenge* (New York: Forum Books, 1987), p. 52, 55.
11. Wildavsky, op. cit.
12. Cited in Marc K. Landy, Marc J. Roberts, and Stephen R. Thomas, *The Environmental Protection Agency: Asking the Wrong Questions* (New York: Oxford University Press, 1990), at 134.
13. See Landy et al. at 134.
14. Joint Hearings before the Subcommittees on Environmental Pollution and Resource Protection of the Committee on

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Environment and Public Works, U.S. Senate (96th Congress), March 28–29, 1979. Field hearing at Niagara Falls, NY.

15. See *Voluntary Purchasing Groups, Inc. (VPG) v. Reilly (USEPA)* (U.S. Court of Appeals, 5th Circuit, 1989).

16. Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

17. See Wildavsky at 182.

18. A PRP (“potentially responsible party”) can challenge in court an EPA decision to list a site on the National Priorities List. But at that point the EPA claims only that the site should be considered for possible cleanup. To get relief, the PRP must show that the EPA’s decision to list the site is arbitrary and capricious, so such challenges seldom succeed. A PRP can also refuse an EPA order to clean a site, but it must show that the decisions it challenges were arbitrary or capricious; otherwise it must pay for the cleanup plus treble damages.

19. One tax, for example, brought in \$520 million in 1990, but it “may impose on firms compliance costs that are more than four times the revenue collected,” according to Katherine N. Probst, Don Fullerton, Robert E. Litan and Paul R. Portney, *Footing the Bill for Superfund Cleanups*, (Washington, DC: Brookings Institution and Resources for the Future, 1995), at 62.

20. See note 6.

21. Quoted in William D. Evans, Jr., “The Phantom PRP in CERCLA Litigation: EPA to Rescue?” *Environment Reporter*, Vol. 26, No. 43 (March 8, 1996), p. 2110.

22. “A Legislative History of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund), Public Law 96-510,” 97th Cong., 2nd Sess., ser. no. 97-14, v. 1 at 117.

23. See Richard B. Belzer, “The Peril and Promise of Risk Assessment,” *Regulation*, Vol. 14, No. 4 (Fall 1991), pp. 40–49.

24. Joan Haines, “Health Hell?” *Bozeman Daily Chronicle*, March 20, 1991, p. 1; Haines, “Health at Risk?” *Bozeman Daily Chronicle*, March 23, 1992, p. 1; Haines, “Did it Cause Cancer?” *Bozeman Daily Chronicle*, April 12, 1992, p. 1.

25. “SARA 313 Ecological Fact Sheet,” U.S. Environmental

Protection Agency, Office of Toxic Substances, mimeo.

26. Stephen Breyer, *Breaking the Vicious Circle* (Cambridge: Harvard University Press, 1993), at 10.

27. Breyer at 11.

28. Breyer at 11.

29. See Sir Richard Doll and Richard Peto, *The Causes of Cancer*, (New York: Oxford University Press, 1981) and Michael Gough, "How Much Cancer Can EPA Regulate Away?" *Risk Analysis*, Vol. 10, No. 1, (1990), pp. 1–6.

30. Data are from a memo to "EPA, ATSDR, and Other Interested Parties" from Steve West of the Office of Environmental Health in the State of Idaho's Department of Health and Welfare, Division of Health, August 5, 1993, and "Testimony of Thomas S. Dunlop, Director of the Aspen/Pitkin Environmental Health Department, Aspen, Colorado concerning Smuggler Mountain Superfund Site Health Risk Assessment" to Committee on Public Works and Transportation, Subcommittee on Investigation and Oversight, U.S. House of Representatives, Washington, DC, June 9, 1992.

31. See Kip Viscusi and James Hamilton, "Superfund and Real Risks," *American Enterprise*, Vol. 5, No. 2, (March/April 1994), pp. 36–45.

32. Alan Carpien, letter to the editor of the *Washington Times*, June 18, 1995; Carpien made clear that he did not speak for the EPA.

33. See Tammy O. Tengs, Miriam Adams, Joseph Pliskin, Dana Fafran, Joanna Siegel, Milton Weinstein, and John Graham, "Five Hundred Life-Saving Interventions and Their Cost-Effectiveness," *Risk Analysis*, Vol. 15, No. 3, (1995), pp. 369–90.

34. Allison Rittenhouse Hayward, "Common Law Remedies and the UST Regulations," *Boston College Environmental Affairs Law Review*, Vol. 21, No. 4, (Summer 1994), p. 619–65 at 631.

35. See Richard L. Stroup, "Hazardous Waste Policy: A Property Rights Perspective," *Environment Reporter* Vol. 20, No. 21, (September 22, 1989), pp. 868–73. See also James DeLong, "Privatizing Superfund: How to Clean Up Hazardous Waste," Cato Institute, Washington, DC, (Dec. 18, 1995), and Herbert Inhaber, "Hands Up for Toxic Waste," *Nature*, Vol. 347, No. 6294 (October

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18, 1990), p. 611–12.

APPENDIX

SUPERFUND: WHAT OTHERS SAY

“This has been the most frustrating and most difficult experience of our lives. The Environmental Protection Agency (EPA) has changed us from card-carrying members of the environmental community into people who have no faith in the environmental protection currently being administered in our country. We believe that Superfund and the Environmental Protection Agency and CERCLA-Superfund have jointly become the environmental tragedy of all of the people. The EPA is spending billions of dollars of our money, to make lawyers rich, and the environment is paying the price. Nothing is getting cleaned up, and communities like ours are ruined for nothing.”

—Public comment by Donna Rose, Ken Raabe and other Concerned Citizens of Triumph, Idaho, August 9, 1993.

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“Under . . . Superfund legislation, pinning the bill on companies has acquired higher priority than ensuring the protection of public health. . . .”

—“Cleaning Up Old Pollution,” *The Economist*, Feb. 29, 1992, p. 18.

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“In some cases, unnecessary or inappropriate remediation might create more of a hazard than would be caused by leaving such materials undisturbed.”

—*Environmental Epidemiology, Public Health and Hazardous Wastes* by the National Research Council (Washington, D.C.:

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National Academy of Sciences, 1991), p. 20.

“ . . . of the estimated \$4.2 billion spent each year on hazardous waste sites in the U.S., less than 1 percent has been devoted to the evaluation of health risks at these sites.”

—National Research Council, 1991, p. 61.

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“I have found no one—not a single person—at EPA, in the business community or in environmental groups, in universities or elsewhere, who has answered the following question affirmatively: If given \$8.5 billion to spend on protection of health and the environment, should it all be devoted to the cleanup of hazardous waste disposal sites?”

—“Reforming Environmental Regulation: Three Modest Proposals,” by Paul R. Portney, *Issues in Science and Technology*, Winter 1988, p. 79.

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“Since its inception at the end of 1980, Superfund has received a great deal of money, over \$5 billion so far, to clean up the nation’s worst toxic waste sites. But OTA’s research, analysis, and case studies support the view shared by most observers—including people in affected communities and people in industry paying for cleanups—that Superfund remains largely ineffective and inefficient. Technical evidence confirms that, all too frequently, Superfund is not working environmentally the way the law directs it to. This finding challenges all those concerned about human health and the environment to discover what is wrong and fix it.”

—*Are We Cleaning Up? 10 Superfund Case*

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*Studies* (Office of Technology Assessment,  
U.S. Congress, June 1988), p. 1.