Superfund

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Perhaps no other environmental program has been cited more often as a failure than the federal Superfund law. Because of excessive litigation promoted by the law's faulty liability scheme and needlessly expensive cleanup standards, the program has produced scant cleanups. Yet for about two decades attempts to reform the law have failed.[1] Meanwhile, states have created and eventually reformed their own cleanup laws, resulting in thousands of state-led cleanups. This history makes strikingly clear that Congress needs to devolve all Superfund responsibilities to the states, where sites will eventually be cleaned.

Statutory Scheme

The federal Superfund law[2] (also known as the Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA) is allegedly designed to hold parties responsible for polluting property. Instead, the law arbitrarily holds anyone remotely connected to a contaminated site liable for cleanup. Responsible parties include waste generators (anyone who produced waste that eventually contami-

1. Although legislation to address federal superfund sites has all failed in the past couple decades, Congress did pass the Small Business Liability Relief and Brownfields Revitalization Act in 2002. It created an additional waste clean up program for non-superfund sites or so-called "brownfields." This law is discussed in the "Brownfields" brief in the Environmental Source.

2. The law is usually referred to as the "Superfund" law, after the name of the government fund created to assist with cleanups.

nated property), arrangers for transport of waste, waste transporters (anyone who simply transports wastes for legal disposal), operators (those who manage waste landfills), and property owners (anyone who owns the land). Under the law's strict joint and several liability scheme, each party can be held liable for 100 percent of the cleanup costs. Liability also is retroactive, applying to situations that occurred long before Congress passed the law. Accordingly, parties ranging from small businesses, schools, and churches to large manufacturing plants have been held accountable for sites that were contaminated decades before Superfund became law.

Cleanups can proceed in a number of ways. First, sites that the U.S. Environmental Protection Agency (EPA) deems a priority for cleanup are listed on the National Priorities List (NPL). After listing a site, the EPA can clean it (paying with funds from the federal Superfund, which was created by taxes on crude oil and other chemicals); then it can seek reimbursement from the Superfund by suing what the law called "potentially responsible parties." Often, the EPA engages in long and expensive litigation beforehand to collect funds from parties, and cleanup follows. In addition, parties found responsible may sue other parties to gain compensation for their costs. As a result, Superfund has produced a web of lawsuits, and it can take a decade or more to reach the cleanup stage.

The cleanup process entails setting cleanup standards that are based on "applicable, relevant, and appropriate requirements." The EPA sets the standards for each site based on state, local, and federal laws. For example, sometimes the EPA will use federal drinking water standards to decide how clean water supplies at a site must be. Because the EPA uses extremely conservative assumptions when assessing risk, the cleanup standards usually demand very expensive cleanups.

Legislation and History

Although Superfund was created as a temporary program in 1980 to clean up 400 sites, the NPL now contains more than 1,635 active, proposed, and former sites.[3] The program and its taxing authority expired in 1995. Since then, members of Congress have battled over whether to restore taxing authority, with fiscal conservatives blocking Superfund reauthorization bills on tax issues alone. In addition, reform efforts have consisted of legislation designed to serve various lobbies, each seeking liability exemptions, leaving other parties to hold the bag.[4]

During recent congressional sessions, Superfund reform has been high on the agenda, but it has repeatedly fallen victim to intense politics. During the 107th Congress, Congress did manage to pass a bill designed to solve problems created by Superfund, the so-called brownfields bill, which is discussed in another policy brief. During the past several congressional sessions, the Superfund debate has revolved around whether to restore the Superfund tax, which expired in 1995.

Superfund grew out of the controversies of Love Canal—the toxic waste site that released chemicals into a community in Niagara Falls,

3. Database list of NPL sites was accessed on the U.S. Environmental Protection Agency website on February 26, 2008, at http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm.

4. For example, see David B. Kopel, *Privileged Polluters: The Case against Exempting Municipalities from Superfund* (Washington, DC: Competitive Enterprise Institute, 1988), http://www.cei.org/gencon/025,01195.cfm.

New York. Love Canal was a symbol of corporate wrongdoing, and it raised calls for federal efforts to force industry to pay for cleanup at contaminated properties. But it is not surprising that the birth of this failed law would have emerged from a lie.[5]

In the case, Hooker Chemical Company selected the site in the early 1940s because, at the time, it was well suited for a waste site (low population, largely impermeable clay soil). But the local school board forced Hooker to sell the land by threatening to condemn the property. Under pressure, the company agreed in 1953 to donate the property to the school board for one dollar. Hooker attempted to set agreed-upon conditions for safe use (surface use only, no construction that would break the lining), and the deed stated that the liability would transfer to the school board and subsequent owners. The school board proceeded to build a school and then sell part of the land to developers—over Hooker's objections. Construction entailed digging into the clay cap, removing tons of soil, and building sewer lines that ran through the landfill, puncturing it and releasing waste throughout the community.

Panic ensued regarding the risks, resulting in a fear campaign about toxic waste. This campaign eventually led to the passage of Superfund, based on the alleged need for governmental action to control industry (even though the local government should have borne blame at Love Canal) and hold it accountable. Ironically, the chemicals at the site did not pose the risks claimed. Although there were some controversial studies that postulated risks, the best studies eventually refuted numerous claims about health impacts.[6]

Status of Cleanups

Federal Superfund cleanups can take decades. The EPA is still trying to clean sites 20 years after they were first listed. In fact, only a handful of sites have actually reached the level of "complete." According to the U.S. General Accounting Office (GAO), now the Government Accountability Office, it takes about 10 years to clean up a Superfund site, and some sites require an additional stage—for monitoring groundwater and the like—that can last an additional 30 years.[7]

Of the 1,635 sites listed on the NPL, only 324 have been removed or "deleted," 1,245 are active NPL sites (meaning cleanup in occurring or pending), and 67 are on the "proposed" list. Of the sites currently on the NPL, 592—or 47 percent—were listed more than 20 years ago (between 1983 and 1988), 1,047—or 84 percent—were listed more than ten years ago (1983-1998). At this pace, it will take many more decades to address all the NPL sites.

So What Are the Risks?

Although they are often depicted as cancer hot spots, there is little evidence that Superfund sites pose chronic health risks. In fact, it is very

5. For an excellent exposé of the Love Canal myth, see Eric Zuess, "Love Canal: The Truth Seeps Out," *Reason* February 1981, 16–33, http://www.reason.com/news/show/29319.html.

6. For overviews of the scientific studies, see Aaron Wildavsky, "Love Canal," in *But Is It True? A Citizen's Guide to Environmental Health and Safety Issues* (Cambridge, MA: Harvard University Press, 1995), 127–152, and Elizabeth Whelan, "The 'Disaster' of Love Canal," in *Toxic Terror* (Ottawa, IL: Jameson Books, 1985).

7. *Superfund—Information on the Program's Funding and Status*, GAO/RCED-00-25 (Washington, DC: GAO, October 1999), http://www.gao.gov/docdblite/summary.php?rptno=RCED-00-25&accno=163047.

difficult to determine risks associated with any low-level exposures to chemicals in the environment, and the best research indicates that such risks are likely to be so low that they are undetectable. For example:

- In their landmark study on cancer risks, Richard Doll and Richard Peto concluded that chemicals in the environment cause about 2 percent of cancer cases.[8]
- The National Research Council concluded in 1991, "Whether Superfund and other hazardous waste programs protect human health is a critical question.... Based on its review of the literature on the subject, the committee finds that the question cannot be answered."[9]

In addition, the EPA's risk assessments grossly exaggerate the risks of these sites, thereby leading to needlessly expensive cleanup standards. Researchers highlight some problems with EPA assumptions.[10] Consider a few:

- The EPA assumes that chemicals that cause cancer in animals also cause cancer in humans. However, these animals are usually bred to be susceptible to cancer and are exposed to massive doses. Milloy notes, "Without this assumption, few substances (only 24 according to the National Toxicology Program) would be considered human carcinogens. According to EPA, this assumption 'contributes to a high level of uncertainty,' and actual risks calculated on this basis may be as low as zero."[11]
- In the book *Calculating Risks?*, James T. Hamilton and W. Kip Viscusi assess risks at 150 Superfund sites (selected because risk assessment data were available). They find that even using the EPA's unrealistically conservative risk assumptions, 140 of these sites would generate no increase of cancer. Hence, spending millions—perhaps billions—to clean these sites would produce zero benefit.[12]
- Hamilton and Viscusi find that 10 sites might produce a total of 731 cancers over 30 years.[13] But this number is probably far higher than real risks, because it is based on EPA assumptions about exposure and risk. One site would allegedly generate 652 cancers related to exposure to polychlorinated biphenyls (PCBs). But scientist Michael Gough points out, "Given the results for the largest population of PCB-exposed workers ever studied, which show that PCBs have not caused cancer in humans, the 652 expected cancer cases may be overestimated

8. Richard Doll and Richard Peto, "The Causes of Cancer: Quantitative Estimates of Avoidable Risks of Cancer in the United States Today," *Journal of the National Cancer Institute* 66, no. 6 (1981): 1257. For more details see the policy brief titled "Chemical Risk Overview."

9. While noting the serious limitations of the studies, the National Research Council says that risks might exist. The National Research Council proceeds to make a plea for additional research funding in this area. National Research Council, *Environmental Epidemiology, Vol. 1: Public Health and Hazardous Waste* (Washington, DC: National Academies Press, 1991), http://www.nap.edu/openbook.php?isbn=0309044960.

10. Steve Milloy, *Science-Based Risk Assessment: A Piece of the Superfund Puzzle* (Washington, DC: National Environmental Policy Institute, 1995).

11. Ibid., 22.

12. James T. Hamilton and W. Kip Viscusi, *Calculating Risks? The Spatial and Political Dimensions of Hazardous Waste Policy* (Boston: Massachusetts Institute of Technology, 1999).

13. Ibid.

by 652."[14] Plus, as Gough notes, the site is a parking lot—with all the chemicals under asphalt. Only if one digs up the asphalt and builds playgrounds, homes, or the like will there be risk of exposure.

At What Price?

The costs are enormous:

- According to the GAO, taxes paid into the Superfund between 1981 and 1998 came to $13.5 billion, and the fund had a balance of $1.4 billion at the end of fiscal year 1999.[15]
- The GAO estimates that responsible parties' cleanup costs came to $13 billion from 1980 to 1998.[16]
- Transaction costs incurred by responsible parties (for litigation and the like) ranged from $3.2 billion to $7.6 billion between 1980 and 1998.[17]
- Total costs (both transaction and cleanup) to private parties are estimated to range from $19 billion to $23 billion.[18]
- Congress also appropriated funds from general tax revenues for the EPA to administer the program.
- In addition, the law demands that states kick in 10 percent for the cleanup of private sites and 15 percent for publicly owned sites.

14. Michael Gough, "Superfund: The High Cost of Environmental Alarmism," *Regulation* 23, no. 2 (2000): 58–60.

15. GAO, *Superfund—Information on the Program's Funding and Status*.

16. Ibid.

17. Ibid.

18. Ibid.

Devolution Solution: State-Level Successes

Although the federal government's record with respect to Superfund is an abysmal failure, state governments are doing much better. In fact, they take much less time to clean more sites at far lower costs. Consider some figures collected in 1995 by the former EPA assistant administrator for solid waste, Dr. J. Winston Porter:[19]

- Although the EPA spent about $1 billion working on about 1,000 sites, states were spending about $700 million annually cleaning about 11,000 sites.
- States clean sites in a fraction of the time it takes the federal government to clean sites, and states do so at far lower cost. For example, Minnesota cleans sites in two to three years at costs of less than $5 million per site.
- Although the federal government had cleaned very few sites by 1994, states had reached "construction completion" on 2,844 sites.

State programs have proven more successful because they focus on setting more realistic cleanup standards (assessing risks with more realistic assumptions, considering future use of the property, etc.) and provide fairer liability policies that promote voluntary cleanup activities by the private sector. Superfund's history confirms a basic point: those closer to a problem are better suited to fix it. Superfund sites are exclusively a state and local concern. Given the demonstrated successes of states (in stark

19. J. Winston Porter, *Cleaning Up Superfund: A Case for Environmental Leadership* (Los Angeles: Reason Public Policy Institute, 1995).

contrast to serious federal failure), there is little reason for Congress to "reform" federal Superfund. Instead, members should seek ways to completely devolve the program to the states.

Key Experts

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Recommended Readings

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