

SALUTING POLLUTING

**A Report on the
Republican Superfund Reform Plan
and its Effect on Massachusetts**

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EXECUTIVE SUMMARY

The Superfund program was established fifteen years ago to clean up the nation's worst toxic waste sites. Since its enactment, the program has targeted 1374 waste sites for cleanup. Nationwide, one out of four Americans lives within three miles of a Superfund site, and eighty percent of existing Superfund sites are located close to drinking water supplies.

Over the last few years, there has been a pressing need to reform the Superfund program in order to address concerns relating to: 1) high cleanup costs, 2) transaction costs, 3) perceived unfairness in the liability scheme, 4) overlapping and conflicting federal and state cleanup efforts, 5) inadequate provisions for community involvement in cleanup decisions, and 6) adverse implications of the program for economic redevelopment. In the last Congress, the House Commerce Committee unanimously approved bipartisan legislation aimed at reforming the Superfund program which won the support of the Clinton Administration, many in the business and environmental communities, and the states. Unfortunately, this legislation died when it was not brought to the House floor before Congress adjourned.

In the 104th Congress, the new Republican majority has abandoned previous efforts to craft a bipartisan package of reforms to the Superfund legislation. Instead, the Republicans have introduced H.R. 2500, the so-called "Reform of Superfund Act" or ROSA. This radical and extreme legislation, which was approved by a House Commerce Subcommittee, would:

- Break the Superfund budget by using approximately \$700 million of the \$1.2 billion Superfund annual budget for rebates for polluters, and more than \$400 million for additional liability carve outs for certain industries and special interests;
- Sunset the Superfund program in the year 2002 and allow only 125 of the estimated 700-1700 Superfund-caliber sites across the country to be added to the Superfund list and become eligible for federal cleanup funding;
- Threaten human health and the environment by eliminating the current preference in the law for permanent treatment and by allowing many Superfund sites merely to be fenced off as "National Industrial Production Sacrifice Zones;"
- Increase litigation and slow cleanups by allowing corporate polluters to file lawsuits challenging cleanup decisions before they have been implemented; allowing corporate polluters to sue to reopen already completed cleanup decisions; and by encouraging lawsuits over allocation of cleanup costs;
- Pre-empt state cleanup laws by requiring that cleanups of Superfund sites comply with the weaker federal standards established by the bill;
- Disregard the need for community involvement in the cleanup process by limiting such involvement only to elected state or local officials rather than all citizens; and,
- Preclude full restoration of damaged natural resources by capping recoveries at \$50 million.

There are currently 30 Superfund sites in Massachusetts, with over 75 percent of these located in or near predominately residential areas. Nearly one in four of the state's citizens (or 1.4 million people) live within four miles of one of these sites. The 30 sites include 12 manufacturing sites, 8 federal facilities, 6 chemical waste storage or disposal sites, and 4 landfills. Ten percent of the Superfund sites in Massachusetts have essentially been cleaned up (one site cleaned and deleted from the Superfund list and two sites cleaned and still monitored), and cleanups are currently underway at an additional 42 percent of the sites in the state (13 sites). At the remaining 48 percent of the Superfund sites (15 sites), preliminary investigations are either underway to determine the full extent of contamination or a cleanup plan is still being formulated.

The House Republican ROSA legislation will have a devastating impact on the cleanup of the 30 contaminated Superfund sites in Massachusetts; it will provide some of those responsible for polluting these sites with millions in rebate checks paid for partly by Massachusetts taxpayers; and it will potentially bar new Superfund-caliber sites from being added to the Superfund National Priorities list. Specifically, ROSA would:

- Provide polluter rebate checks partially paid for by Massachusetts taxpayers to the parties responsible for contaminating 12-13 Superfund sites in Massachusetts, including Atlas Tack, Blackburn & Union Privileges, Cannon Engineering, Groveland Wells, Hocomonco Pond, Industri-Plex, Iron Horse Park, Norwood PCBs, Nyanza Chemical, perhaps Re-Solve, Rose Disposal Pit, Wells G & H, and W.R. Grace Acton (EPA preliminary estimates are that these rebates could total \$100 million);
- Delay cleanups by allowing previously completed cleanup decisions to be reopened, potentially affecting cleanups at the Groveland Wells, Hocomonco Pond, Industri-plex, Iron Horse Park, Norwood PCBs, Nyanza Chemical, Wells G & H, and W.R. Grace Acton sites;
- Eliminate the current bar on pre-enforcement review of cleanup plans, potentially subjecting half the non-Federal sites in Massachusetts to potential delays in cleanups pending the outcome of litigation over remedies. Affected sites include Atlas Tack, Blackburn and Union, Groveland Wells, Hocomonco Pond, Industri-Plex, Iron Horse Park, Norwood PCB, Nyanza Chemical, perhaps Re-Solve, and Wells G & H;
- Potentially interfere with groundwater cleanups at almost every Superfund site in Massachusetts including the Federal facilities by weakening the statutory preference for groundwater treatment; and,
- Open the door to potential new litigation regarding natural resources damages relating to the Nyanza Chemical Waste Dump in Ashland Massachusetts.

During Subcommittee consideration of ROSA, a number of Democratic Members -- including myself -- sought to offer amendments to the bill to address its most extreme anti-environmental provisions. Unfortunately, all of these amendments were defeated -- largely along a party-line vote. Increased public awareness of the devastating environmental impact of ROSA on our communities throughout Massachusetts and the nation will be needed in order to defeat this ill-conceived legislation.

INTRODUCTION

Fifteen years ago, on December 11, 1980 President Carter signed into law the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund.¹ This program was in response to the public outcry over the threat to public health and the environment from sites such as Love Canal, Times Beach, and the Valley of the Drums. In drafting CERCLA, Congress established a national program to identify and clean up contaminated hazardous waste sites and spills. Congress decided one of the program's fundamental principles should be that those who created the hazardous waste sites should pay for their cleanup. This "polluter pays" policy is attained through the liability and enforcement provisions of the statute. Superfund liability is retroactive, strict, and joint-and-several, meaning parties can be held liable for cleaning up waste they disposed of before the law was enacted in 1980; they can be held liable even though they may not have violated any laws enacted at the time; and under joint-and-several liability, the government can require any or all of the parties to clean up the site.

The federal government is authorized to maintain a large trust fund, the "Super Fund," to: 1) respond to emergency situations involving hazardous materials and 2) perform long-term cleanup activities at sites where responsible parties could not be found. The fund is maintained by the collection of petroleum, chemical feedstock, and corporate environmental taxes. A description of the Superfund program and process is given in Appendix A.

When CERCLA was reauthorized in the mid-1980s, EPA's management of the program was the focus of much public criticism for not cleaning up sites quickly enough. At that time, I issued a report on the Superfund program entitled "Deadly Delay: Five years of Inaction at the Woburn Superfund Sites" which highlighted the delay and inaction of the Reagan Administration EPA in cleaning up two Superfund sites in the 7th district of Massachusetts.² The Woburn site was one of the first placed on the National Priority List, yet five years after CERCLA was signed into law, children were still found riding dirt bikes across the contaminated site. In 1986, the Superfund Amendments and Reauthorization Act (SARA) responded to many of the criticisms in my report by significantly increasing funding for the program, and establishing a number of important reforms including a preference for permanent remedies, a series of deadlines for initiating actions, mandatory cleanup standards, and improved liability settlement procedures.³

Since 1986, EPA has obtained cleanups of over 300 sites, and the pace of Superfund cleanups has increased dramatically. Indeed, more Superfund sites have been cleaned up in the last three years than in the previous 12 years of the program. However, it has become increasingly clear that further reforms are needed to address a number of problems associated with the program, including the fact that:

- Cleanups can sometimes be too costly because of strict cleanup standards;
- Too much money continues to be spent on litigation among liable parties;
- The liability scheme is perceived by many to be unfair;

- Overlapping authority and responsibility between Federal and State agencies has led to disagreements regarding site cleanup;
- Many communities near Superfund sites cannot fully participate in the decision making process regarding site cleanup.
- The market value of facilities can be depressed because liability extends to both past and prospective owners.

Since 1993, EPA has instituted a number of administrative reforms that address many of these issues. At this time, further legislative reforms are also in order. Both Congress and the Clinton Administration identified Superfund reform as a priority in the last session of Congress, in part because the Superfund taxing authority was set to expire on December 31, 1995. In 1994, the House Commerce Committee worked out a bipartisan compromise on a package of Superfund reforms which received the support of nearly all interested parties, including state and local governments, public interest groups, environmental groups, small businesses, insurance companies, and a coalition of numerous large chemical and manufacturing companies. The 1994 Superfund reform legislation would have:

- Increased participation of communities affected by Superfund facilities;
- Delegated more authority to States;
- Expanded voluntary response programs with States to increase the pace of cleanups;
- Established a new cost allocation procedure to resolve disputes among liable parties without resorting to litigation;
- Modified the remedy selection process to improve protectiveness, cost-effectiveness, and speed up cleanups; and
- Established a fund to settle disputes between parties and their insurance companies.

Although the bill received the unanimous support of the Commerce Committee (44-0), the 103rd Congress adjourned before Superfund reform could be brought to the floor of the House and the Senate for consideration. The consensus reform legislation crafted in the last session of Congress has been re-introduced in the current session as H.R. 228.

This year, Congress is continuing to consider the issue of Superfund reform. House and Senate conferees agreed to a short extension of the Superfund taxing authority as part of the Budget Reconciliation bill, and this limited extension was intended to force the passage of major reform legislation in this session of Congress. Comprehensive Superfund reform legislation has been introduced in both chambers of Congress. In the House of Representatives, Congressman Michael Oxley (R-OH) has introduced H.R. 2500, the Reform of Superfund Act (ROSA).

Unlike last year, the new Republican majority determined that one of its key priorities for Superfund reform has been to repeal as much Superfund liability as possible. The Congressional Budget Office⁴ estimated that a Superfund program which repeals retroactive liability before 1980 would cost up to \$2.6 billion a year. Repealing Superfund liability before 1987 (the year the insurance industry rewrote its policies to avoid liability for costs associated with Superfund cleanups) would bring the yearly cost of the program to nearly \$3.2 billion. Without raising taxes, proponents of a full repeal have been unable to develop the sufficient funding.

Because of the funding issues, H.R. 2500 does not include a full repeal of retroactive liability. However, it does provide substantial liability relief to those responsible for polluting a site in two ways: (1) by explicitly exempting liability for certain industries and special interests and (2) by providing liability rebates for 50 percent of future cleanup costs relating to pre-1987 liability. To fund this reform, ROSA proposes to end the Superfund program in seven years by capping at 125 the number of new toxic waste sites that can be added to the Superfund National Priorities List, and it lowers cleanup standards (thereby reducing cleanup costs).

ROSA is supported by many industries and small businesses because of the liability reforms. State and local government officials support some of the provisions in the bill, although they also have a number of serious concerns about key provisions. On the other hand, EPA, Department of Justice, insurance companies, environmental groups, and public interest groups are all opposed to ROSA. Lois Schiffer, Assistant Attorney General of the Environment and Natural Resources Division at the Justice Department, testified that ROSA does not represent a responsible reform of the Superfund program. According to Schiffer, "It is so fundamentally flawed that it does not even provide a good starting point for responsible reform." In response to a question I posed at a hearing, Schiffer indicated that the Justice Department would recommend a Presidential veto of H.R. 2500 if it remains in its current form.⁵

During Subcommittee consideration of ROSA, the Democratic minority offered a substitute bill that was nearly identical to the bill which received the unanimous support of the full Committee in 1994. This year, the bill was defeated in the Subcommittee by a party line vote of 10 to 13. A number of Democratic Members -- including myself -- also sought to offer amendments to H.R. 2500 to address its most extreme anti-environmental provisions. Unfortunately, all of these amendments were defeated, largely along a party-line vote. (A summary of these votes appears in Appendix B) After several days of contentious debate, H.R. 2500 was forwarded to the full Commerce Committee (amended) by a vote of 15-11. Full Committee action is expected soon.

On the fifteenth anniversary of the enactment of the original Superfund legislation, I am issuing this report to highlight the devastating impact the current House Republican legislation will have on the cleanup of hazardous waste sites across the country. A detailed account is included on the effect this legislation will have on the state of Massachusetts. Increased public awareness of the devastating environmental impact of ROSA on communities throughout the nation will be needed in order to defeat this ill-conceived legislation.

REFORM OF SUPERFUND ACT (ROSA)

EFFECT OF ROSA ON NATIONAL SUPERFUND SITES

ROSA'S "REBATES" BREAK THE SUPERFUND BUDGET

Although ROSA does not fully repeal Superfund liability, it will provide responsible parties with a rebate, equal to 50 percent of the costs a party incurs after October 1995 to clean up hazardous waste they disposed of before January 1987. Nearly 95 percent of the sites currently on the NPL were contaminated before January 1987,⁴ and EPA has estimated that the rebates will cost over \$700 million per year.⁶

Funding for this new entitlement for polluters will come from the same EPA Superfund budget that funds emergency responses and remedial cleanup activities. For fiscal year 1996, a total of \$1.16 billion has been appropriated for the Superfund program.⁷ This represents a decrease of 19 percent compared to the fiscal year 1995 enacted funding level of \$1.43 billion. The Republican budget for Superfund is \$400 million less than the President's request of \$1.56 billion (a 25 percent cut). Within that budget, only \$913 million is available for response actions and for the Superfund liability rebates; the general revenue appropriations (\$250 million) can only fund enforcement activities, health assessments, technical assistance, and research and development. Thus, at a time when the entire Superfund budget is under assault, the Agency will be required to spend over 75 percent of its cleanup budget on rebates. This rebate provision effectively eliminates the "polluter pays" principle of Superfund and replaces it with a "pay the polluter" policy. The Democratic minority offered an amendment during the Subcommittee mark-up session to completely eliminate the rebate entitlement in ROSA, but the amendment was defeated on a 12 to 13 party line vote.

ROSA REWARDS MISCONDUCT

ROSA places few limitations on which parties are eligible to receive multi-million dollar rebate checks from the government. Even parties whose liability was based on negligence, gross negligence, or willful misconduct would be eligible for a rebate. Only those parties where a court of competent jurisdiction made an actual determination, within the applicable statute of limitations, that the conduct was illegal at the time it occurred would be ineligible for a rebate.

Consider the case of Olin Corporation, which operated chemical manufacturing facilities in Saltville, Virginia for over 75 years.⁵ Olin disposed of hazardous wastes in ponds and on lands adjacent to the North Fork of the Holston River, and these disposal practices resulted in severe mercury contamination at the site and in the river. Since 1970 people have been advised not to eat fish from a six mile section of the river. During a suit Olin Corporation brought against their insurance companies, it was revealed that company executives were told by their

the Refuse Act, and the Virginia State Water Control Law for the mercury pollution in the North Fork of the Holston River and the 'discharges' from the chlor-alkali plant site." On September 29, 1995, Olin signed a settlement agreement, committing the company to a \$41 million cleanup at one portion of the Saltville site. In response to questions I posed at a hearing earlier this year, Olin officials testified that their company is beginning to, and should continue to, pay for the entire cleanup effort at this site. However, according to EPA and Justice Department officials, Olin Corporation could qualify under the provisions of ROSA for at least a \$20 million rebate check for their actions related to the facility in Saltville, VA.

During the Subcommittee mark-up session, I offered an amendment to stipulate that a responsible party would not be eligible for the rebate if their liability were based on negligence, gross negligence, willful misconduct, or any other conduct that would have given rise to civil or criminal liability under applicable Federal, state, or local law at the time of disposal. Unfortunately, the amendment was defeated by a largely party-line vote of 11 to 12.

In addition to breaking the budget and rewarding misconduct, the rebate provision in ROSA sets bad public policy. While some critics argue that the current liability scheme punishes parties who may have acted at the time in accordance with the law, ROSA appears to reward parties who continued to break the law up to seven years after the Superfund law was clearly in effect. ROSA rewards parties who delayed settlement with the government or delayed actual cleanup efforts since these parties will now receive a 50 percent reduction in their total cleanup costs. In contrast, those who already settled claims and have begun cleanup activities will receive a rebate based only on future cleanup costs not on any past actions.

According to the testimony of EPA Administrator, Carol Browner,⁶ "The cornerstone of the liability reform [in ROSA] is a windfall for polluters ... There is no defensible public policy for using public funds in such a manner. At a time when Congress is struggling to reduce overall Federal spending, why should the United States give large corporations that were aware of their liability yet pursued sometimes irresponsible waste disposal practices a 50 percent rebate on cleanup costs? It does not make good public policy sense."

ROSA SUNSETS THE SUPERFUND PROGRAM IN 2002

By allowing only 125 more sites to ever be added to the Superfund National Priority List (NPL), ROSA insures that the Federal effort to clean toxic waste sites is terminated. Currently there are nearly 1300 sites on the NPL, approximately three times more than Congress envisioned when the program was created. Testimony given by EPA and the state waste program managers, indicated there are between 700 and 1700 additional NPL-caliber sites across the nation awaiting possible listing.⁶⁸ Despite the large number of potential sites, ROSA limits the number that can be added to the NPL to a completely arbitrary number, representing just over two additional sites per state.

The National Association of Attorneys General and the state waste program managers both testified before the Subcommittee that the States strongly oppose this provision in ROSA.⁶⁹ The States oppose having a potentially large number of NPL-caliber sites excluded from the NPL, which would leave the responsibility for cleanup to the States. Given that the average cost of cleanup for an NPL site is nearly \$30 million, it is clear that individual states will not

be able to bear the financial burden of cleanup. As long as sites continue to pose a serious enough threat to human health and the environment, the Federal government should consider these sites for listing on the NPL.

During the Subcommittee markup, Democratic members offered an amendment to strike the provision in ROSA which caps the number of new sites that can be added to the NPL. Individual sites should be considered for listing on the NPL based on the risk they present to human health and the environment, and they should not be excluded because of an arbitrary cap. Unfortunately, the amendment was defeated by a tie vote of 12 to 12, which broke along party lines.

ROSA THREATENS HUMAN HEALTH AND THE ENVIRONMENT

The fundamental question regarding cleanup standards at hazardous waste sites is whether to require permanent cleanup of the contamination or whether to simply prevent exposure to the contaminants. With its preference for permanent treatments, the current Superfund law very clearly intends to address the current risks and to prevent future risks. The remedy selection standards in ROSA are quite different. ROSA emphasizes low cost exposure control methods rather than long-term cleanups. The current preference for treatment is removed, even for hot spots (areas with highly toxic or highly mobile contaminants). ROSA also reduces cleanup standards to levels which are inadequate for protection of human health and the environment. For example, ROSA does not take into account health risks posed by non-carcinogens even though these contaminants pose serious health threats including kidney disease and nervous system disorders.

The EPA has expressed concern that the meager objectives for health and environmental protection, along with the cost benefit tests, will result in low-cost exposure control remedies, such as a fence, being selected as the preferred cleanup solution at many sites. EPA Administrator Carol Browner described ROSA as an "exposure control bill that passes on the legacy of these hazardous waste sites to our children and our grandchildren."⁶

ROSA's provisions regarding treatment of contaminated groundwater are particularly troubling. In the United States, groundwater supplies 95 percent of the drinking water for rural households and 35 percent of the drinking water for urban households.⁶ Under ROSA, the restoration of contaminated groundwater is unlikely to be addressed at most sites because the treatment will not pass the cost-benefit tests. Generally, it will always be less costly to prevent ingestion of contaminated water rather than to actually treat groundwater contamination.

During the Subcommittee mark-up, Democratic members offered two amendments, to retain the current preference for permanent treatments and to include a the preference for treatment of hot spots. Both amendments were defeated.

ROSA CATERS TO SPECIAL INTERESTS

The issue of liability reform was addressed in last year's comprehensive Superfund reauthorization bill. The few liability exemptions which were proposed then and are now part of ROSA include exemptions for parties who arrange for disposal, treatment, or transport of municipal solid waste (MSW) or sewage; parties who arranged for recycling of paper, plastic, glass, textiles, metal, rubber and batteries; parties who contributed very small amounts of hazardous materials at a given site; and generally innocent parties such as those who acquired contaminated property by inheritance or charitable donation, those who own property near a contaminated site; construction contractors carrying out a contract; and governments which own roads used to transport hazardous materials;

However, unlike last year's proposals, a host of broader exemptions for certain categories of polluters have been added to ROSA. In addition to the polluter rebates, ROSA provides liability relief through direct liability exemptions or through the re-definition of what constitutes a hazardous material. In some cases, ROSA explicitly exempts all parties at a site, a concept which was not endorsed in last year's bill. These following parties will no longer incur Superfund liability, and the Federal government will pick up the cleanup costs for these shares:

- \$ All parties who contributed waste to landfills which were authorized to accept both municipal and industrial waste (co-disposal sites) are exempt from liability. Estimated cost of this liability carve out is \$400 million per year. Last year's bill did not extend a complete exemption of liability to any site.
- \$ All owners and operators of sites which accept spent lead batteries for recycling are completely exempt from liability.
- \$ All parties, such as mining and oil companies, whose liability is based on having uncovered naturally occurring radioactive materials during their operations, are completely exempt from liability.
- \$ All owners and operators of sites which accept waste oil for recycling are completely exempt from liability.
- \$ *de minimis* parties, defined as those who disposed of or treated one percent or less of the volume of hazardous materials prior to January 1, 1987 at a site listed on the NPL before June 15, 1995, are exempt from liability. Rather than completely exempting these parties, last year's bill first considered the toxicity of the waste and then allowed for possible expedited settlements.

Intensive lobbying efforts are currently underway by a whole host of special interest groups, and the number of hazardous waste re-classifications and liability exemptions may increase dramatically when ROSA is considered in full Committee. Other exemptions reportedly being considered include solvent recyclers, paper mills, dry cleaners, metal recovery operations, lighting waste, combustible ash, etc.

It is difficult to determine the cost of all these individual liability carve outs. However, EPA has estimated that the single largest exemption, for the 230 co-disposal sites currently on the NPL, will cost nearly \$400 million per year.⁶ Together with the anticipated rebate reimbursements of \$700 million/year, this more than exceeds the entire Superfund budget for fiscal year 1996. Clearly, the nation cannot afford the rebates and the special interest liability carve outs with the budget that has been appropriated for this program without significant increases in the Superfund tax or increased appropriations to the program out of general revenue.

Although these exemptions will remove many small businesses from the Superfund liability net, there is concern that the exemptions are written too broadly, especially those exemptions which apply to entire sites. For example, Department of Justice officials testified that the language in ROSA which exempts all parties at co-disposal sites would have provided a liability exemption to the polluters of the Love Canal site, since that site accepted some municipal waste.⁵ In addition, a person who operated a landfill for profit and accepted industrial waste for years could now exempt themselves from all Superfund liability by accepting as little as one load of municipal waste. This would unfairly shift the cleanup responsibility of such sites solely onto the Federal program. Democratic members offered an amendment during the Subcommittee markup session which would have restricted the liability exemption at co-disposal sites to apply only to municipalities. Unfortunately, the amendment was not adopted.

Another troubling liability exemption concerns the lead battery recycling sites. While last year's bill was intended to provide reprieve for legitimate recycling activities, ROSA extends this exemption to another entire class of potentially hazardous sites, lead smelting facilities -- which are notorious for polluting the environment. Many lead smelters maintain lead battery breaking and recycling as only a small portion of their operations, while their primary operations are devoted to smelting lead ore. As a result, this particular carve out in ROSA will exempt approximately 25 lead battery recycling facilities currently on the NPL, including at least seven lead smelting sites.

ROSA INCREASES LITIGATION AND SLOWS CLEANUPS

While ROSA's sponsors claim that one of the principal benefits of the bill will be to reduce litigation and speed cleanups, key provisions will actually increase, rather than decrease, the amount of litigation associated with Superfund sites. This will ultimately delay cleanup activities at these sites.

ROSA removes the current ban on pre-enforcement review, which prohibits lawsuits challenging cleanup decisions before they have been implemented (if a decision is later overturned by the courts, the parties are reimbursed). This policy was adopted in 1986 to speed cleanups and to avoid having judges ultimately select the cleanup remedies. It has been very successful in speeding cleanups of Superfund sites. ROSA would once again allow cleanup decisions to be challenged in court before their implementation. In addition, ROSA permits nearly all final cleanup decisions or Records of Decision (RODs) to be reviewed, reopened, and possibly litigated. Over 1400 decisions could be reexamined if ROSA is passed, affecting cleanup activities at almost 700 sites across the country.¹⁰ The National Association of

Attorneys General have expressed their concern regarding the likely increase in litigation, and the corresponding delay in cleanup activities, which these two measures would produce." During the Subcommittee mark-up session, Democratic members offered an amendment to strike these two provisions in ROSA. Although this would have significantly reduced the opportunity for new litigation, the amendment was not adopted.

Finally, the allocation system outlined in ROSA is also expected to increase litigation during the settlement phase. At sites where a proportional allocation system is established, parties will have a strong economic incentive to focus on litigating with one another regarding each parties contribution to the cleanup rather than moving forward on the cleanup itself. Even parties that contributed little waste at a site and parties exempted from liability under ROSA, will be involved in significant litigation to prove that they qualify for the exemption. EPA Administrator, Carol Browner, testified that "Transaction costs will continue to remain high as litigation, including contribution actions, remains the most common approach to settle liability."⁶

ROSA PRE-EMPTS STATE CLEANUP LAWS

Under current law, cleanup standards at NPL sites generally adhere to applicable state standards. ROSA transfers much of the current federal management of the NPL cleanups to the state level. However, in order to receive the federal funding for cleanup of the NPL sites, the states would have to apply the cleanup standards set forth in ROSA, which are substantially less protective than the standards that are currently applied to non-NPL sites in many states. The State Attorneys General are opposed to this provision, and have suggested that states might not take the lead authority under conditions which pre-empt state law.¹⁰

Democratic members offered an amendment during the Subcommittee mark-up to ensure that legally applicable state cleanup standards apply to Superfund cleanups in that state. The provision was not adopted. A provision offered by the majority to restore treatment to state cleanup standards in only some very narrow cases was then adopted.

ROSA DISREGARDS LOCAL COMMUNITIES

Local communities are concerned about their level of involvement in the process regarding cleanup decisions at Superfund sites. Under current law, and under both ROSA and last year's reform bill, citizens from the affected communities are encouraged to express their views on a variety of issues related to the site and its cleanup. Under ROSA, however, only a handful of factors are explicitly considered when the actual decision is made regarding a remedy selection: overall effectiveness and reliability of the remedy, short-term risk associated with implementing the remedy, reasonableness of costs, and "acceptability of the remedy to the affected community as represented by the elected officials."

The language in ROSA is too restrictive because it does not allow for the variety of processes that communities use to make such important decisions. While some communities' involvement may be through their elected officials, others may choose to hold town meetings or voter referendums. Another important shortcoming of the language in ROSA is that it fails

to acknowledge that, in some regions of the country, elected officials may not necessarily speak for, or agree with, the affected community on this issue. I offered an amendment during the Subcommittee mark-up to insure that the affected community around a site has real input into the final decision making process regarding selection of a cleanup method. The amendment was defeated by a party line vote of 10 to 14.

Local communities are also concerned about redevelopment of "brownfields" (i.e. abandoned or underutilized industrial sites including old Superfund sites). EPA Administrator Carol Browner testified that ROSA's current emphasis on providing only low-cost exposure control remedies will ultimately inhibit the economic redevelopment of these sites.⁶ ROSA attempts to address the remediation and reuse of brownfields by authorizing state voluntary cleanups and by proposing liability reforms to encourage lenders and developers to invest in such sites. However, ROSA provides no funding to assist in site characterization or assessment to facilitate the reuse of these sites. Democratic members offered an amendment during the Subcommittee mark-up to make grants available to local governments for use in the re-development of brownfield sites. This amendment was not adopted.

ROSA PRECLUDES FULL RESTORATION OF DAMAGED RESOURCES

At some NPL sites, the release of hazardous materials has destroyed or injured wildlife, water supplies, and other natural resources such that cleanup actions alone cannot repair the damage. For example, if a relatively small NPL site is the source of contamination which polluted a river for a hundred miles downstream, cleanup of the NPL facility may do little for the injured resources downstream. Thus, CERCLA allows trustees of injured resources to bring claims for the recovery of natural resource damages (NRD). If awarded, these recoveries may only be used to pay for the restoration, replacement, or acquisition of the equivalent of the injured natural resources. Natural resources which are covered include land, fish, wildlife, biota, air, water, groundwater, drinking water supplies, and other resources belonging to, managed by, held in trust by, or otherwise controlled by Federal, state, or tribal trustees. Natural resource damages are generally measured by (1) the costs of restoring, replacing, or acquiring the equivalent of the injured resource plus (2) the reduction in the natural resource's economic value from the time of injury until full recovery or restoration, i.e., the value of the lost use of the resource. Current law limits NRD recoveries to \$50 million for sites which involve a single release of hazardous materials. Thus, a \$50 million cap would apply to damages related to a chemical tanker spill. However, the cap does not apply to sites where hazardous substances were released into a river continuously over a number of years. ROSA would dramatically change this provision, limiting liability for NRD at a site to \$50 million for all parties, for all cumulative releases, over the entire contiguous area of the site. While this limitation will not affect most sites because claims are generally under \$50 million and remedial actions have generally minimized the injuries requiring restoration, this limit will prevent meaningful restoration for the most severe cases of natural resource damages.

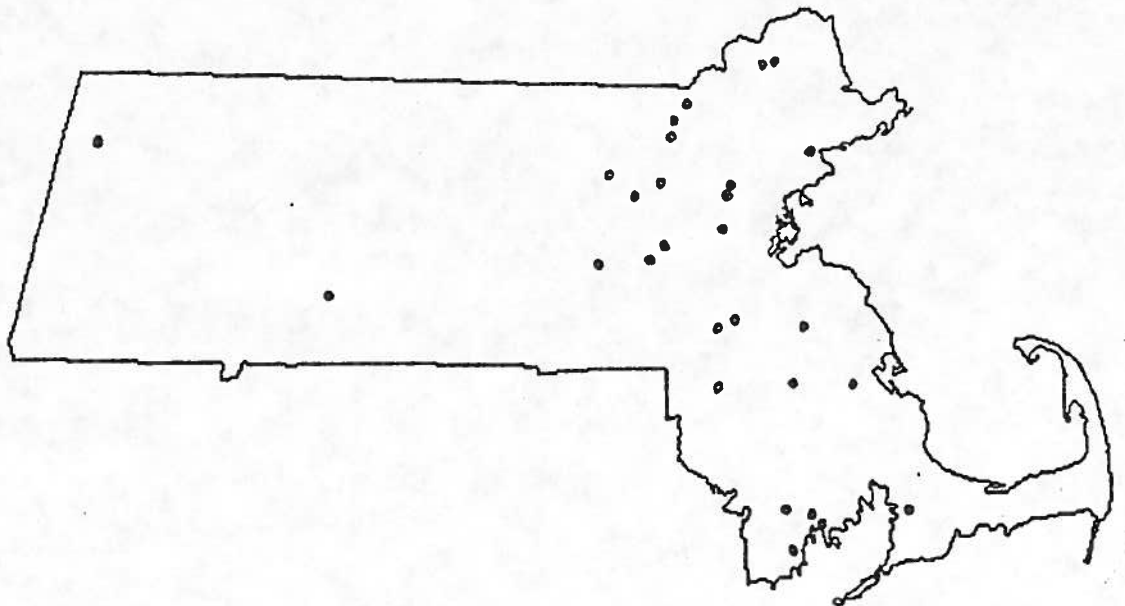
There are only a handful of NPL sites in which pending NRD claims are expected to surpass \$50 million. However, for these few cases, the responsible parties who caused the most massive damages will essentially receive the largest reduction in their financial liability. ROSA is a gift for these special interests. Examples of the most massively injured sites include:¹²

- **Bunker Hill, Coeur d'Alene Basin, Idaho.** During decades of mining and smelting operations, over 70 million tons of mine and mill tailings were discharged into the Coeur d'Alene River. Sediments contaminated with heavy metals have spread through the river basin, resulting in extensive poisoning of vegetation, fish, and other wildlife. Asarco is one of the major responsible parties at this site. Estimated NRD claim is \$1 billion.
- **Clark Fork, Montana.** Mining, milling, and smelting operations at the site resulted in extensive contamination to the Silver Bow Creek and the Clark Fork River. The 25 mile long Creek, which no longer contains any fish, and 125 miles of the River are contaminated, making this one of the largest NPL sites in the nation. ARCO is the major responsible party at this site. Estimated NRD claim is \$500 to \$700 million.
- **Los Angeles Harbor, California (Montrose).** Montrose Chemical Corporation operated a DDT manufacturing plant and Westinghouse Electric operated an equipment repair plant at this site for over thirty-five years. Discharges of DDT and PCBs have contaminated large areas of the marine environment along the southern California coast. A layer of contaminated sediments (2 to 24 inches thick) covering more than 20 square miles, has resulted in health advisories and fishing bans. Estimated NRD claim is \$500 to \$650 million.
- **Lavaca Bay, Texas.** An aluminum smelting plant operated by ALCOLA discharged large quantities of mercury into Lavaca Bay. The contamination has resulted in numerous health advisories and fishing bans, and evidence suggests a natural recovery is very unlikely. Estimated NRD claim is as high as \$250 million

During the Subcommittee mark-up, Democratic members offered an amendment to remove the aggregate cap of \$50 million that ROSA places on the recovery for injury to natural resources, maintaining, instead, the language of current law. Unfortunately, the amendment was defeated by a 10 to 14 party line vote. Thus, this handful of companies will be exempted from a significant portion of the recovery costs for the serious natural resource damages described above. The taxpayers will be stuck with the remaining \$2 billion recovery bill.

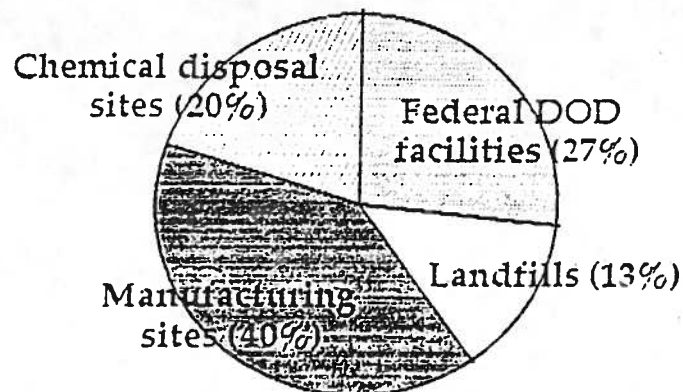
EFFECT OF ROSA ON MASSACHUSETTS

There are currently 30 NPL sites in Massachusetts, and over 75 percent of the sites are found in predominately residential areas. It is estimated that 1.4 million residents of Massachusetts, nearly one in four residents, live within four miles of an NPL site.¹³

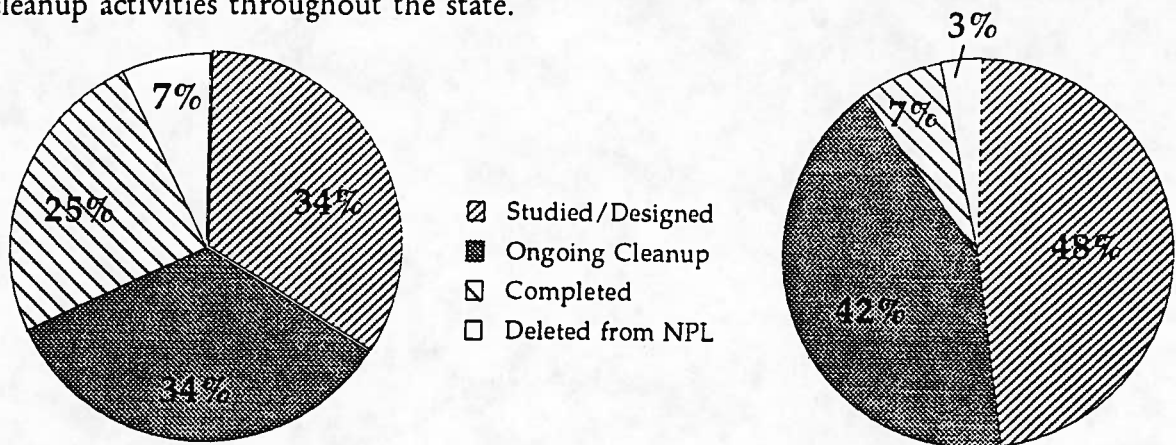


The locations of all 30 NPL sites in Massachusetts.

There are generally four types of Superfund sites in the state, and a brief description of each site is given in the table at the end of this report. The status of cleanup activities at the site (as of December 1995) is also reported in the table.



The progress of cleanup at Massachusetts sites lags behind the national average. Only ten percent of the sites in Massachusetts have either been deleted from the NPL or have been designated as construction complete; compared to the national average of 32 percent. Because of this, the proposed reform legislation will have an impact on nearly all the cleanup activities throughout the state.



Status at National Sites

Status at MA sites

Status of site cleanups in Massachusetts are compared to the national average. Sites are designated as being under investigation or design, undergoing cleanup, construction complete, and ultimately the sites are deleted from the NPL.

CLEANUPS IN MASSACHUSETTS WILL BE DELAYED, DELAYED, DELAYED ...

By allowing previously signed records of decision to be re-examined, ROSA could delay cleanups at 8 to 9 sites in the state (see table at end of the report). Cleanups at the Groveland Wells, Hocomonco Pond, Industri-Plex, Iron Horse Park, Norwood PCBs, Nyanza Chemical, Wells G & H, and W.R. Grace Acton sites would be delayed if any "interested party" chooses to re-litigate the remedy.

ROSA eliminates the ban on pre-enforcement review of remedies, which will mean additional delays. Sites which are especially vulnerable are those still under investigation and those where even a portion of the remedy is under design. This represents half the non-Federal Superfund sites in Massachusetts. Affected sites include Atlas Tack, Blackburn and Union, Groveland Wells, Hocomonco Pond, Industri-Plex, Iron Horse Park, Norwood PCB, Nyanza Chemical, perhaps Re-Solve, Wells G & H, and W.R. Grace in Acton.

Delays will also be experienced at sites where responsible parties choose to re-litigate because of the changes ROSA makes in the Superfund liability scheme. Several of the chemical reclamation sites in the state may invite renewed litigation since they may (or may not) qualify for the exemption regarding waste oil recycling. At the Re-Solve facility, any one of the responsible parties could choose to litigate this case over liability issues. If liability is not exempted for all parties at this site, there are bound to be delays in cleanup as the parties litigate their respective "fair share" allocations.

FUTURE DRINKING WATER SUPPLIES IN MASSACHUSETTS WILL NOT BE PROTECTED

The remedy selection criteria in ROSA will generally not allow for cleanup of contaminated groundwater. ROSA only requires the prevention of actual human ingestion of contaminated drinking water, rather than the restoration of the groundwater to beneficial uses as prescribed under the current law. This change is an extremely important issue for the residents of Massachusetts. Approximately 90 percent of the Superfund sites in the state involve contamination of groundwater, and at least 240,000 Massachusetts residents obtain their drinking water from aquifers over which a site is located.¹⁰ In several cases, contaminated groundwater is already known to be moving off-site, threatening to contaminate nearby areas.

Treatment of contaminated groundwater is often an expensive and time-intensive activity. Operation and maintenance activities often continue for decades. Sites in Massachusetts which have not yet begun treatment of some contaminated groundwater include the sites at Atlas Tack, Blackburn & Union Privileges, Groveland Wells, Haverhill Landfill, Industri-plex, Iron Horse Park, Nyanza Chemical Waste Dump, PCS Resources, Shpack Landfill, Sullivan's Ledge, and most of the Federal facilities. Under ROSA, treatment of contaminated groundwater at these sites may no longer be part of the overall remedy. At sites where groundwater is currently being treated, any responsible party may choose to re-open the original remedy decision. If a savings of \$1 million or more can be demonstrated (which is relatively easy for a responsible party to do if it proposing to halt groundwater treatments), the new cleanup criteria in ROSA will be put into effect. Sites which may be affected include the Re-Solve, Silresim, and Wells G & H sites.

AREAS OF MASSACHUSETTS WILL BE WRITTEN OFF AS "NATIONAL INDUSTRIAL PRODUCTION SACRIFICE ZONES"

ROSA eliminates the current law's preferences for permanent treatments and for treatment of hot spots and emphasizes, instead, low cost exposure control remedies. Consequently, many hazardous waste sites in Massachusetts may never be adequately cleaned; they will simply be "fenced off." ROSA writes off many of these sites as "national industrial production sacrifice zones," in which parts of our community previously used for industrial or manufacturing purposes may essentially be written off for any future use.

The new weaker remedy selection criteria of ROSA will apply at all sites within Massachusetts where the remedial action is still being investigated. These include the Atlas Tack, Blackburn & Union Privileges, Haverhill Landfill, and Shpack Landfill sites, as well as a number of the Federal facilities. Immediate cleanup actions or removals were taken at these sites, and fences were installed, reducing the immediate threat to the public health. It is unclear what, if any, further cleanup actions will be taken at these sites given the remedy selection provisions in ROSA.

The new cleanup standards in ROSA will also be applied to sites where cleanup actions have already begun. Any interested party can ask for a record of decision to be re-opened

at the site, at which point the new weaker standards would be applied to the site cleanup. This could affect the Iron Horse Park, Norwood PCBs, PCS Resources, and the Wells G & H sites in Massachusetts.

At the same time, ROSA provides the companies who created these toxic waste sites with multi-million dollar rebate checks. Responsible parties at 12-13 sites will be eligible for the rebates: Atlas Tack, Blackburn and Union Privileges, Cannon Engineering, Groveland Wells, Hocomonco Pond, Industri-Plex, Iron Horse Park, Norwood PCBs, Nyanza Chemical, perhaps Re-Solve, Rose Disposal, Wells G & H, and W.R. Grace Acton. Estimating the actual amount of the rebate checks is difficult because responsible parties are under no obligation to report to EPA their cleanup expenditures to date. An initial estimate by EPA staff suggests that \$100 million of rebate checks will be sent to the parties who polluted sites in Massachusetts."

DAMAGED NATURAL RESOURCES IN THE STATE MAY BE WRITTEN OFF AS WELL

ROSA's natural resource damage provisions could mean that some damaged resources in Massachusetts will not be adequately restored. The NRD provisions of the Superfund law, which allow trustees of natural resources to recover for damages, are very important for states such as Massachusetts because of the coastal and wetland ecosystems which are affected by hazardous waste contamination. While none of the current sites in Massachusetts involve NRD claims which extend beyond the \$50 million cap, ROSA could adversely affect the ability of trustees to settle claims for adequate restoration.

For example, at the Nyanza Chemical Waste Dump in Ashland trustees are currently negotiating with the responsible parties for restoration claims involving a 24-mile area of the Sudbury River. Industrial wastes, including 45 to 57 metric tons of mercury, were discharged into the river, resulting in mercury concentrations as high as 55 ppm in the river and in the fish. (The recommended FDA safety level is 1 ppm.) Signs have been posted around the river and a public awareness task force has been formed. Currently, an attempt is being made to recover costs for remediation of the Sudbury River. ROSA would change the criteria on which NRD assessments are made, especially regarding "lost use" recoveries. This would provide smaller settlements and, thus, limit the amount of restoration trustees can accomplish.

EFFECT OF ROSA ON WOBURN SUPERFUND SITES

THE WELLS G & H SITE

The story of Wells G & H in Woburn is the subject of a critically acclaimed 1995 book by Jonathan Harr, "A Civil Action." The site is the location of two municipal wells developed in 1964 and 1967 to supplement the drinking water supply for the city of Woburn, Massachusetts. The wells supplied 30 percent of the drinking water to the city of about 36,000 people. The citizens of Woburn complained for years about the quality of their drinking water. In 1979, when city police discovered several 55-gallon drums of industrial waste abandoned on a vacant lot near the municipal water supply wells, Wells G & H were tested. Both wells were found to be contaminated and were shut down in 1979. Five separate properties subsequently were found to be contaminating the aquifer that supplied water to these two municipal wells. Four of the five potentially responsible parties (Beatrice, UniFirst, W.R. Grace, and New England Plastics) have entered into settlements with EPA, agreeing to an initial cleanup worth approximately \$70 million. The fifth party, Olympia Nominee Trust, has still not settled with the EPA. Tests conducted by the EPA after the wells were closed identified as many as 56 different chemicals in the water. Wells G & H were added to the National Priority List in 1983. This site and the Industri-Plex site in Woburn were the subject of a report² I issued in 1985, entitled "Deadly Delay: Five years on inaction at the Woburn Superfund sites."

The entire site covers a total area of 330 acres, and it is located on land that serves as a recharge area for the aquifer from which the Woburn Municipal Wells G & H drew water. The area surrounding the site is predominately residential, although there are also some commercial and industrial parks nearby. The Aberjona River flows through the middle of the site, and surface water runoff from the site is directed through drainage systems toward the river and its tributaries. The ground water is contaminated with volatile organic compounds (VOCs); the sediments in the river are contaminated with polyaromatic hydrocarbons (PAHs) and heavy metals; and the soil is contaminated with PAHs, PCBs, VOCs, and pesticides.

The public health problems in Woburn have been extensive. There have been reported elevated rates of kidney cancer; liver cancer; colon-rectal cancer; male breast cancer; birth defects; and heart, immune, and nervous system disorders. Cases of adult leukemia are also twice the expected rate, and for many years there was a cluster of childhood leukemia cases which was considered by the Centers for Disease Control to be the most persistent cluster of childhood leukemia ever identified in the United States. In 1982, eight families who had lost children to leukemia filed a civil suit against a group of the potentially responsible parties (PRPs), ultimately reaching a settlement of \$8 million.

There are five responsible parties at Wells G & H: Beatrice, UniFirst, W.R. Grace, Olympia Nominee Trust, and New England Plastics. Four of the parties (all except Olympia Trust) have entered into settlements with EPA, agreeing to an initial cleanup worth approximately \$70 million.

Long-term cleanup of the site is being addressed in three phases, focusing on (1) control and containment of soil and water contamination at the properties, (2) cleanup of the central aquifer, and (3) cleanup of the Aberjona River. The \$70 million settlement directed the parties to address cleanup of contaminated soils and contaminated groundwater. Three parties have also agreed to fund an investigation concerning contamination of the central aquifer. A preliminary risk assessment of the Aberjona River is currently being funded by EPA. Costs for the first phase of the cleanup was allocated among the five responsible parties approximately as follows: Beatrice 58%, UniFirst 21%, W.R. Grace 9%, Olympia Nominee Trust 7%, and New England Plastics 4%. The second and third phases of the long-term cleanup at Wells G & H are still under investigation.

How will ROSA affect the Wells G & H site?

ROSA could have a serious adverse impact on the cleanup at Wells G & H since treatment of contaminated soils is still in progress, and treatment of contaminated groundwater has only been addressed at a portion of the overall site.

The major parties at Wells G & H would not qualify for a direct liability exemption under ROSA. However, they would become eligible for a 50 percent rebate for all cleanup costs they incur after October 1995. If cleanup had not yet begun, the parties would receive at least \$35 million in rebate checks to clean up a site which they have already acknowledged is their responsibility. The actual rebates Beatrice, W.R. Grace, et al likely would receive considerably less than \$35 million because cleanup is already well underway and the PRPs are not required to disclose how much they have spent to date. Moreover, it is difficult to estimate the actual amount of the rebates because future cleanup standards will change under ROSA. The Justice Department, however, has estimated that W.R. Grace at minimum will be eligible for \$1-2 million rebate for groundwater remediation at the Wells G & H site.

Under ROSA, any of the responsible parties may petition to re-open the records of decision. If the party believes a savings of \$1 million or more could be achieved by implementing the cleanup standards contained in ROSA, cleanup would stop while the new treatment is investigated and designed. Treatment of contaminated soil is likely to continue under ROSA, although new designs could be brought forward. However, ROSA does not require groundwater to be treated in most cases, and the current treatment at Wells G & H in Woburn consists of groundwater treatment.

THE INDUSTRI-PLEX SITE

The Industri-Plex site is a 250-acre industrial park located in Woburn, Massachusetts. Residences are located within 1000 feet of the site, and more than 34,000 people live within three miles of the site. Between 1853 and 1933, the site was used for manufacturing chemicals for local textile, leather, and paper manufacturing industries. Between 1934 and 1969, the site was used by a glue manufacturer, who extracted glue by cooking animal hides. Based upon evidence from aerial photographs and maps, most wastes from these operations were apparently disposed of by filling in wetlands and other low lying areas. By the late 1960's, the waste deposits from these activities accumulated to such an extent that large piles of hides and other

wastes, rising forty to fifty feet, covered over eight acres of the site. Liquid from the manufacturing operations was released into a settling basin and discharged to a nearby sewer. The site was sold to a developer in 1968, and excavation activities in the 1970's uncovered and mixed 130 years of accumulated industrial by-products and wastes. Piles of animal hides were moved around which released obnoxious "rotten egg" odors into the atmosphere and toxic metals and soils into the pond and the wetlands. In 1979, the EPA finally obtained a court order to stop the development, and in 1983, the Industri-Plex site was added to the National Priority List.

Animal hide residues are found on approximately 20 acres of the site in four different piles. Approximately 100 acres of soils are contaminated with high concentrations of arsenic, lead, and chromium. The underlying groundwater is also contaminated with high concentrations of benzene, toluene, and arsenic, and this contaminated ground water has the potential to migrate to two Woburn municipal drinking wells, which are currently closed.

There are a number of responsible parties at the Industri-Plex site. Monsanto and the former Stouffer Chemical account for 95 percent of the overall liability, and a number of parties account for the remaining 5 percent liability. In 1989, the EPA entered into a Consent Degree with the settling defendants to do the following: (1) design and construct permeable caps over contaminated soils and sediments, (2) design and construct an impermeable cap on the pile of animal hides, (3) design and construct an interim ground water treatment system to treat a contaminated ground water hot spot, and (4) conduct a ground water and surface water investigation to evaluate the degree of ground water contamination at the site. The permeable and impermeable caps are currently 80 percent complete. The interim groundwater remedy has been installed. The ground and surface water investigation has been prepared and is being reviewed by the EPA.

The EPA is currently discussing the future beneficial re-use of the site with the Massachusetts Bay Transportation Authority (MBTA), the Massachusetts Highway Department, and the Massachusetts Port Authority (MassPort). An interchange of Route 93 and a Regional Transportation Center (RTC) are expected to be located at the site. The RTC Agencies have received approximately \$20 million through State bond issues to design and locate an RTC at the site. Conceptual designs for the RTC are currently being evaluated.

How will ROSA affect the Industri-Plex site?

ROSA is not expected to directly impact the planned future re-use of the Industri-Plex site as a Regional Transportation Center. However, it will affect the remaining groundwater cleanup activities. The major parties at the Industri-Plex site will not qualify for a direct liability exemption under ROSA. However, they would be eligible for a 50 percent rebate for all cleanup costs they incur after October 1995. It is difficult to estimate the actual amount of the rebates, although they will be less than \$30 million. Since construction of the permeable and impermeable caps is already 80 percent complete, ROSA will not delay the development of the planned parking lot and interchange for Route 93. However, any future treatment of groundwater contamination will be affected. Any of the interested parties may petition to reopen the records of decisions regarding treatment of groundwater and implement the cleanup standards contained in ROSA.

APPENDIX A: OVERVIEW OF THE SUPERFUND PROCESS

SITE LISTING

When EPA becomes aware of a potential hazardous waste site (from concerned citizens, through routine investigations, or as a result of an accident), the Agency determines whether or not the site poses an immediate threat to the public health. If the site does immediately threaten the public, the Agency undertakes an emergency removal action to stabilize the threat. Once the immediate threat has been removed, EPA conducts a more comprehensive investigation to determine whether or not the site requires a long-term, remedial, cleanup action. If further action is warranted, the EPA evaluates the site's potential hazards to public health and the environment using the Hazardous Ranking System (HRS). Each site receives an HRS score which considers factors such as the quantity and nature of hazardous wastes present; the likelihood of contamination of ground water, surface water, and air; and the proximity of the site to population and sensitive natural environments. Only the most hazardous sites, those receiving a sufficiently high score under the HRS, are then placed on the National Priority List (NPL). The NPL is the Agency's list of the nation's worst hazardous waste sites. Since the beginning of the program, EPA has investigated nearly 38,000 sites, and less than four percent have been placed on the NPL.⁶ Only sites that are placed on the NPL are eligible to receive federal monies from the trust fund for remedial cleanup actions. The cleanup actions at NPL sites are overseen by EPA. Cleanup activities at the hazardous waste sites that are not included on the NPL (which number more than 35,000) become the responsibility of the individual State Departments of Environmental Protection.

THE CLEANUP PROCESS

To develop a permanent, long-term cleanup solution, all hazardous waste sites currently on the NPL go through a four-step process:

1. The Remedy Investigation and Feasibility Study (RI/FS) is conducted. This study includes a detailed investigation to characterize the site and to assess the extent of contamination. Because many sites have more than one contamination problem, the site study is often broken down into cleanup projects or phases. The RI/FS identifies and evaluates the various cleanup alternatives.
2. The Record of Decision (ROD) is issued. The ROD is a public document which provides an explanation of the selected remedy and the reason it was selected. If a site has more than one cleanup project or phase, multiple RODs may be issued at the site.
3. The Remedy Design is formulated. This design describes details on how the selected remedy will be engineered and constructed. It includes details of construction; a description of the types of hazardous wastes expected at the site; and special plans for environmental protection, worker safety, regulatory compliance, and equipment decontamination.

4. The Remedy Action is implemented. The actual cleanup work at the site is undertaken according to the formulated design. Some sites require long-term monitoring of the site to insure the remedy's effectiveness. Sites in this final monitoring or operational stage are designated as "construction complete." However, they are not yet deleted from the NPL.

STATUS OF CLEANUP ACTIVITY AT NPL SITES

The EPA has targeted 1374 of the nation's worst toxic waste sites as high priorities, placing them on the National Priorities List. The NPL consists of sites from all 50 states, including 160 Federal facilities. The status of cleanup activities at these sites is as follows:

- 91 sites (7 %) have been completely cleaned and deleted from the NPL
- 346 sites (25 %) where construction is complete, only monitoring continues
- 472 sites (34 %) where cleanup is underway
- 252 sites (19 %) where the remedy has been selected or is undergoing design
- 213 sites (15 %) where preliminary investigations or studies are underway

On average, it takes ten to twelve years from the time a site is listed on the NPL to the time cleanup at the site is completed. However, it should be noted that more sites have been cleaned up and delisted in the past three years than in the first twelve years of the program.

FUNDING THE CLEANUP

Cleanup activities at Federal facilities are funded entirely from the annual budgets of the corresponding agency. The cost of federal facility cleanups is estimated at \$6 billion per year, a value which dwarfs the private party cleanups. Despite the serious nature of the contamination at many Federal facilities, the budgets for these particular programs have taken large funding cuts for FY 1996. This will slow the pace of cleaning up hazardous waste at Federal facilities around the nation.

The average cost of cleaning up a non-Federal NPL site is nearly \$30 million. However, a significant portion of these sites (35 percent) have been cleaned for less than \$5 million; only ten percent of the sites have cleanup costs totaling more than \$50 million. ⁴

Emergency responses at hazardous waste sites are carried out mainly by the Federal government, although much of the corresponding cost is later recovered from the responsible parties. In contrast, the long-term remedial cleanup actions are carried out mainly by the responsible parties; more than 70 percent of the remedial actions are currently undertaken by private parties.⁵ Cleanup actions at orphan sites, where no responsible party can be held accountable, are funded predominately by the federal trust fund, although states are required to contribute a 10 percent share.

EPA seeks to identify the parties responsible for contamination at a site, and the Superfund liability and enforcement schemes have been very effective in carrying out the "polluter pays" principle of the law. The enforcement program has evolved into a program in which most responsible parties either enter into settlements or voluntarily comply with administrative

orders, rather than litigating with the government. Under the "Enforcement First" policy, which was implemented under President Bush, the Federal government can insist that responsible parties begin cleanup activities at a site as opposed to having the federal government undertake a cleanup and later recover the costs from the responsible parties. Responsible parties can then attempt to recover some of their costs from other responsible parties at the site.

In the context of Superfund, transaction costs refer to costs incurred in assigning, allocating, and disputing responsibility for cleanup rather than in cleanup itself. For responsible parties and their insurance companies, transaction costs generally include costs to dispute liability, to negotiate settlements with the EPA, to litigate the applicability of insurance policies, and to conduct unofficial RI/FS as a check on EPA's own work. The Congressional Budget Office testified that transaction costs for insurance companies represent a large fraction (88 percent) of their total Superfund costs. However, this high number reflects the fact that insurance companies have generally chosen to litigate Superfund claims, and because they have been rather successful, they spend little money on actual cleanup activities. Transaction costs for large industrial firms have been estimated at 20 to 30 percent of their total Superfund costs for 1984 to 1989. The Congressional Budget Office estimates that private transaction costs are currently on the order of \$900 million per year. In contrast, Federal transaction costs for Superfund are significantly less, representing perhaps \$250 million to \$300 million in annual spending, or 15 to 18 percent of the annual program budget. Most of the active federal litigation is for recovery of EPA's costs incurred for site investigations, removal actions, or other response activities.

APPENDIX B: MARKUP OF H.R. 2500 COMMERCE SUBCOMMITTEE

The markup began on October 31 with opening statements from Members of the Subcommittee. On November 1, the markup continued, and Rep. John Dingell offered the Democratic substitute bill (H.R. 228), which was identical to the bill that the full Commerce Committee agreed to last year by a vote of 44-0. This substitute was defeated on a party line vote of 10 to 13 (with Rep. Markey voting Aye). The Markup continued on November 8-9, and H.R. 2500 was reported to the full Committee, as amended, by a largely party-line vote of 15-11.

DEMOCRATIC AMENDMENTS

Edward Markey (D-MA) offered an amendment which would provide that a responsible party at a Superfund site is not eligible for the 50% rebate from the Government if its liability was based on negligence, gross negligence, willful misconduct or any other conduct that would have given rise to civil or criminal liability under applicable Federal, state, or local law at the time of disposal. (NOTE: H.R. 2500 only prohibits the rebates from going to parties who were actually convicted.) The amendment was NOT AGREED TO by 11-12 (Rep. Markey voted Aye).

Edward Markey (D-MA) offered an amendment which would insure that the affected community around a site has real input into the final decision making process regarding selection of a cleanup method. H.R. 2500 only allows the opinions of the elected officials to be factored into the decision. This amendment would have allowed states to express their views through a Town Meeting or through a Voter Referendum. The amendment was NOT AGREED TO by 10-14 (Rep. Markey voted Aye).

Bart Stupak (D-MI) offered an amendment to strike the provision in H.R. 2500 which puts a cap (125) on the number of new sites that could be added to the National Priorities List. Capping the program would essentially eliminate the Superfund program. The states oppose having between 700-1700 potential NPL caliber sites excluded from the NPL and Superfund Trust Fund funding because they do not have the resources to cleanup these sites. The amendment was NOT AGREED TO by 12-12 (Rep. Markey voted Aye).

Ron Wyden (D-OR) offered an amendment to strike both the provision in H.R. 2500 which allows cleanup decisions to be challenged in court before implementation of the remedy and the provision allowing all final cleanup decisions (RODs) at over 700 sites to be reviewed, reopened, and litigated. (NOTE: The EPA and DOJ testified that this reopening of the RODs and the bar on pre-enforcement review would cause delays in cleanup at many sites around the nation.) The amendment was NOT AGREED TO by 11-14 (Rep. Markey voted Aye).

Frank Pallone (D-NJ) offered an amendment which would completely eliminate the provision of the Republican bill which provides rebates to responsible parties for cleanup costs incurred after Oct 18, 1995. The amendment was NOT AGREED TO by 12-13 (Rep. Markey voted Aye).

Bill Richardson (D-NM) offered an amendment which would provide that legally applicable more stringent state cleanup standards, and federal or state facility siting requirements shall apply to Superfund cleanups in that state. H.R. 2500 pre-empts state law on this matter, and only allows for federal funding if the states apply these new, less stringent, cleanup standards. Rick White (R-WA) offered an amendment to this amendment to restore treatment to State cleanup standards only in some very narrow cases. The White amendment was AGREED TO by 14-12 (Rep. Markey voted No). As amended by the White amendment, the Richardson amendment was AGREED TO by a voice vote.

Frank Pallone (D-NJ) offered an amendment which would maintain a preference for permanent treatment or cleanup solutions. Current law favors a preference for permanent treatment, as did the Democratic substitute bill. H.R. 2500 emphasizes only reducing exposure to contaminants through low cost cleanups. The amendment was NOT AGREED TO by 9-14 (Rep. Markey voted Aye).

Elizabeth Furse (D-OR) offered an amendment which would remove the aggregate cap of \$50 million that H.R. 2500 places on the recovery for injury to natural resources (for the entire area at the site, no matter how large the site or how serious the resource loss). At massively injured sites, serious losses will be shifted to states and taxpayers, and those who caused the most damages, will get the biggest break. The amendment would have retained the language of the current law. The amendment was NOT AGREED TO by 10-14 (Rep. Markey voted Aye).

Frank Pallone (D-NJ) offered an amendment which would require that when determining a cleanup action, preference should be given to cleaning highly contaminated areas (hot spots). The amendment was NOT AGREED TO by voice vote.

Frank Pallone (D-NJ) offered an amendment which would restrict the liability exemption for all persons at co-disposal sites to only exempt liability of municipal governments. Under the language of H.R. 2500, large industrial polluters who contributed hazardous waste materials to municipal landfills, would be exempt from liability. The Department of Justice testified that this provision would have exempted the polluters of the Love Canal. This amendment would insure that only small parties and municipal governments are exempt from liability at these sites. The amendment was NOT AGREED TO by 11-12 (Rep. Markey voted Aye).

Sherrod Brown (D-OH) offered an amendment which would provide that local governments grant provisions for brownfield development. The amendment was NOT AGREED TO by 12-13 (Rep. Markey voted Aye).

Frank Pallone (D-NJ) offered an amendment which would retain the current policy that considers naturally occurring radioactive materials (NORM) as hazardous materials. The amendment was NOT AGREED TO by 9-12 (Rep. Markey voted Aye).

Bill Richardson (D-NM) offered an amendment which clarified the double recovery provision for trustees seeking natural resource damages. A section of H.R. 2500 could have been interpreted in a way which would have prevented various trustees of natural resources (federal and state governments and tribal trustees) from being compensated for damages to different resources at the same site. The amendment clarifies the bill's language to allow different

trustees at a given site to enter into settlements for injury to different resources. The amendment was AGREED TO by voice vote.

Elizabeth Furse (D-OR) offered an amendment which would retain the current law of using "lost use" in the determination of natural resource damages. This current language in H.R. 2500 would be particularly devastating to Tribal trustees. The amendment was NOT AGREED TO by 11-12 (Rep. Markey voted Aye).

REPUBLICAN AMENDMENTS

Chairman Michael Oxley (R-OH) offered an amendment which would provide further liability carve outs for waste oil recycling sites and for lead battery recycling sites. Although this amendment would eliminate liability for many small businesses, it would also exempt some large lead smelting facilities who accept recycled lead batteries. The amendment was AGREED TO by voice vote (Rep. Markey voted No).

Michael Crapo (R-ID) offered an amendment which would require the EPA Administrator to review the Lead-in-Soils Policy. The EPA believes that this would require a change in their approach from protecting children from lead poisoning to requiring evidence of lead poisoning before action could be taken. The amendment was AGREED TO by 13-8 (Rep. Markey voted No).

Michael Crapo (R-ID) offered an amendment which was a response to Markey's "No Rebates for Misconduct" Amendment. This amendment clarifies that the only parties who cannot receive the rebates are those actually convicted of criminal behavior by January 1, 1992. The amendment was AGREED TO by 15-10 (Rep. Markey voted No).

Michael Crapo (R-ID) offered an amendment which would clarify the current language in the bill to limit the cap on natural resource damages to \$50 million at each site. Also includes a statute of limitations. The amendment was AGREED TO by voice vote.

Paul Gillmore (R-OH) offered an amendment which clarifies language about performance-based standards. The amendment was AGREED TO by voice vote.

Paul Gillmore (R-OH) offered an amendment which clarifies the language of one liability exemption. The amendment was AGREED TO by voice vote.

Paul Gillmore (R-OH) offered an amendment which would limit trust fund spending for certain expenditures, including management support, research and development, and enforcement. The amendment was AGREED TO by voice vote.

Chairman Michael Oxley (R-OH) offered several en bloc amendments which contained no real substantive changes. These were amendments to Titles I-V, IX, and X. All were AGREED TO by voice vote.

REFERENCES

1. CERCLA. P.L. 96-510.
2. "Deadly Delay: Five Years of Inaction at the Woburn Superfund Sites," Edward J. Markey, November 26, 1985.
3. SARA, P.L. 99-499.
4. Testimony of Jan Paul Acton, Assistant Director of Natural Resources and Commerce Division, Congressional Budget Office, April 27, 1995 hearing, Senate Environment and Public Works Committee.
5. Testimony of Lois Schiffer, Assistant Attorney General of Environment and Natural Resources Division, U.S. Department of Justice, October 26, 1995 hearing, House Commerce Committee.
6. Testimony of Carol Browner, Administrator of the Environmental Protection Agency, October 26, 1995 hearing, House Commerce Committee.
7. Conference Report to accompany H.R. 2099, the Departments of Veterans Affairs, Housing and Urban Development, and Independent Agencies Appropriations Act, 1996.
8. Testimony of Jim Coleman, Asst. Commissioner of Bureau of Waste Site Cleanup, October 18, 1995 hearing, House Commerce Committee.
9. Testimony of Tom Udall, Attorney General of New Mexico and President of the National Association of Attorneys General, October 26, 1995 hearing, House Commerce Committee.
10. Information provided by staff of the Environmental Protection Agency, Washington, D.C.
11. Letter on H.R. 2500 Agenda from the National Association of Attorney's General to House Commerce Committee and House Transportation Committee, November 3, 1995.
12. Information provided by staff of the National Oceanic and Atmospheric Administration, Washington, D.C.
13. "Superfund: Progress at National Priority List Sites, Massachusetts 1994 Update," United States Environmental Protection Agency, Washington, D.C.
14. Information provided by staff of the Region I Office of the Environmental Protection Agency, Boston, MA.

IMPACT OF ROSA ON TOP 30 SUPERFUND SITES IN MASSACHUSETTS

This chart indicates how H.R. 2500 will affect all 30 Superfund sites in Massachusetts with regard to the following: (1) Will responsible parties now be exempt from liability (not including small contributor exemptions or exemptions for parties with limited ability to pay)? (2) Will responsible parties become eligible to receive rebates for further cleanup costs? (3) Can a record of decision (ROD) be reopened at this site, delaying further cleanup activities? This staff analysis is based on information provided by the EPA Region 1 office in Boston, MA. (PCBs are polychlorinated biphenyls; VOCs are volatile organic compounds such as benzene, toluene, and trichloroethylene; PAHs are polyaromatic hydrocarbons such as benzopyrene and benzoanthracene.)

SITE	DESCRIPTION	STATUS OF CLEANUP	Exempt from Liability?	Eligible for Rebate?	Re-Open a ROD?
Atlas Tack Corp Fairhaven 2-90	From the 1940s to the 1970s, the company manufactured wire tack, steel nails, and similar items. The plant discharged waste containing cyanide and heavy metals into an unlined acid neutralizing lagoon, which was next to a tidal marsh in Buzzards Bay. Contaminants found in the soil, surface water, and groundwater include cyanide, VOCs, and heavy metals such as mercury.	Remedial investigation stalled due to lack of federal EPA resources. No estimate of cleanup cost yet. PRPs have not yet been identified.	No	Yes	no RODs signed
Baird & McGuire Holbrook 9-83	This was the site of a chemical mixing and batching facility from 1912-1983 whose activities included mixing, packaging, storing, and distributing pesticides, disinfectants, soaps, floor waxes, and solvents. Waste was stored in open lagoons or a cesspool, or it was discharged into the soil, brook, wetlands, or gravel pit. Contaminants found in the soil, sediments, surface water, and groundwater include DDT, VOCs, PAHs, dioxin, arsenic and other heavy metals.	Cleanup underway. Groundwater treatment plant is in operation. Treatment of contaminated soils is expected to be completed in late 1997. The PRPs have entered into a cashout settlement with EPA, and they have completely paid. Thus, the rebate provision does not apply.	---	---	---

SITE	DESCRIPTION	STATUS OF CLEANUP	Exempt from Liability?	Eligible for Rebate?	Re-Open a ROD?
Blackburn & Union Privileges Walpole 5-94	<p>This site was used for manufacturing activities since the 17th century, producing snuff, iron, nails, cotton, wool, leather, heavy machinery, yarn, batting, lamp wicking, and asbestos brake lining. Wastewater was disposed in a lagoon until 1982. Contaminants found in the soil, sediments, and groundwater include asbestos, arsenic, lead, and VOCs.</p>	<p>Remedial investigation stalled due to lack of federal EPA resources. No estimate of cleanup cost yet. PRPs have not yet been identified.</p>	No	Yes	no RODs signed
Cannon Engineering Corporation Bridgewater 9-83	<p>CEC used this site to store and incinerate hazardous wastes. From 1974-1980, site stored motor oils, solvents, organic and inorganic chemicals, pesticides, and plating waste and sludge. Company was shut down and convicted of illegal storage and disposal. Contaminants found in the air, soil, sediments, surface water, and groundwater include dioxin, VOCs, PAHs, PCBs, and heavy metals.</p>	<p>Construction complete. Treatment of contaminated soils is complete, and a monitoring system for ground water contamination has been installed.</p>	No	Yes	Yes
Charles George Reclamation Trust Landfill Lowell 9-83	<p>From 1950-1967, the site was a municipal landfill. New owners then accepted both household and industrial waste from 1967-1976, including hazardous waste (VOCs and toxic metal sludges). In 1983, the state ordered the landfill closed; the EPA listed it on NPL; and the owner filed bankruptcy. Contaminants found in the air, soil, sediments, groundwater, and nearby domestic wells include arsenic, benzene, PAHs, and mercury.</p>	<p>Cleanup underway. Landfill has been capped. Groundwater treatment is delayed because of lack of federal funding. Estimated cleanup cost is \$70 million. Nearly all the PRPs have entered into cashout settlements with EPA and have completely paid. The remaining PRPs (owners/operators) which have not settled would be exempt.</p>	Yes, co-disposal exemption	—	—

SITE	DESCRIPTION	STATUS OF CLEANUP	Exempt from Liability? Eligible for Rebate? Re-Open a ROD?
<p>Fort Devens Ayer, Shirley, Lancaster, Harvard 11-89</p>	<p>Fort Devens was founded by the Army in 1917 to train active duty personnel, and it was slated for closure in 1991. There are a number of hazardous waste sites on the property including an explosive ordnance disposal range where explosives and unusable munitions have been detonated or burned in open unlined pits since 1979 and a sanitary landfill where household wastes, military refuse, asbestos, construction debris, waste oil, and incinerator ash have been dumped since the 1930s. Contaminants found in the soil, sediments, surface water, and groundwater include explosives, heavy metals (arsenic, mercury, chromium, etc), PAHs, VOCs, and petroleum products.</p>	<p>Remedial investigations are underway. A Federal Facilities Agreement (FAA) became effective in November 1991. The site is undergoing an accelerated investigation and cleanup to meet the closure deadlines. Redevelopment of the site is currently being examined. Since this is a Federal facility site, the proposed liability exemptions and rebates do not apply.</p>	<p>— — —</p>
<p>Fort Devens - Sudbury Training Annex Sudbury, Maynard, Hudson, Stow 2-90</p>	<p>The Annex was established in the early 1940s, and it has served as an ammunition depot, an ordnance test station, a laboratory disposal center, and a troop training center. Contaminants found in the soil and the groundwater include explosive residues, PCBs, VOCs, and pesticides.</p>	<p>Remedial investigation is underway with remedy design beginning soon. A FAA was signed in May 1991. Since this is a Federal facility site, the proposed liability exemptions and rebates do not apply.</p>	<p>— — —</p>
<p>Groveland Wells No. 1 & 2 Groveland 9-83</p>	<p>The area near this site included a metals and plastics manufacturing facility which used subsurface disposal systems and underground leaching tanks. The facility also disposed of hazardous materials on the ground. These activities contaminated two municipal water wells which were the sole source of drinking water for the town. Contaminants found in the soil, groundwater, and municipal wells include VOCs, lead, and arsenic.</p>	<p>Cleanup of soils is underway, but groundwater treatment is stalled due to lack of federal EPA funds. Settlement has not yet been reached with PRPs.</p>	<p>No Yes Yes</p>

SITE	DESCRIPTION	STATUS OF CLEANUP	Exempt from Liability?	Eligible for Rebate?	Re-Open a ROD?
<p>Hanscom Air Force Base Bedford, Concord, Lexington, Lincoln 5-94</p>	<p>In 1980, two wells belonging to the VA Hospital in Bedford were closed down after VOCs were discovered in the water. A similar discovery in 1984 shut down three of the Town of Bedford's wells. Contaminated groundwater and surface water from the base were the likely source of the well contamination. Numerous hazardous substances have been used at the base since 1942, and contaminants found in the soil and the groundwater include VOCs, solvents, gasoline, jet fuel, and PCBs.</p>	<p>Remedial investigation is underway. No FAA has been signed yet. Since this is a Federal facility site, the proposed liability exemptions and rebates do not apply.</p>	<p>—</p>	<p>—</p>	<p>—</p>
<p>Haverhill Municipal Landfill Haverhill 6-86</p>	<p>This was an industrial landfill since the 1930s which started accepting municipal waste in the 1960s. Steel drums, tires, and flammables were dumped either into shallow pits or the nearby river. Sludge from a wastewater treatment plant was mixed with sand and spread over the surface of the landfill. Contaminants found in the soil, surface water, and groundwater include chromium, arsenic, PAHs, VOCs, and mercury.</p>	<p>No remedial investigation underway due to lack of federal EPA funds. No estimate of cleanup costs yet. All PRPs have not yet been identified.</p>	<p>Yes co-disposal exemption</p>	<p>—</p>	<p>—</p>
<p>Hocomonco Pond Westborough 9-83</p>	<p>From 1928-1946, the site was used for wood treating operations and was then converted into an asphalt mining plant and then a cement plant. The site includes a recreational pond which was closed in 1980. Contaminants found in the soil, sediments, surface water, and ground-water include arsenic, chromium, creosotes, and other carcinogenic compounds.</p>	<p>Cleanup underway. All remediation activities should be completed by the fall of 1996. Estimated cleanup cost is \$8 million.</p>	<p>No</p>	<p>Yes</p>	<p>Yes</p>

SITE	DESCRIPTION	STATUS OF CLEANUP	Exempt from Liability?	Eligible for Rebate?	Re-Open a ROD?
Industri-Plex Woburn 9-83	<p>From 1853 to 1969, the site was used for manufacturing chemicals and then for manufacturing glue from raw animal hides. Excavation in the 1970s uncovered and mixed 120 years of accumulated industrial by-products and wastes. Contaminants found in the air, soil, and groundwater include debris from decaying animal hides, VOCs such as benzene and toluene, and heavy metals such as arsenic and chromium.</p>	<p>Cleanup underway. Treatment of soils and animal hide piles is nearly complete, and the groundwater treatment is being investigated. Estimated cleanup cost is \$60 million. Re-use of the site has been approved by and State authorities.</p>	<p>No</p>	<p>Yes</p>	<p>Yes</p>
Iron Horse Park Billerica 9-84	<p>This area was the site of manufacturing and railroad maintenance facilities. It includes open storage areas, landfills, a wastewater lagoon, and an asbestos landfill. Contaminants found in the soil, surface water, wetlands, and groundwater include asbestos, arsenic, PCBs, heavy metals, and petrochemicals.</p>	<p>Cleanup underway. Treatment of soils is underway, and cleanup of the landfill area will begin in early 1996. Estimated cleanup cost is \$20 to \$25 million. Settlement has not yet been reached with PRPs.</p>	<p>No</p>	<p>Yes</p>	<p>Yes</p>
Materials Technology US Army Lab Watertown 5-94	<p>The facility was established in 1816, and it was in use until 1988, when it was slated for closure as part of the Base Realignment and Closure Act. The facility was used at times for ammunition and pyrotechnics production, materials testing, and experimentation with paints and lubricants. The laboratory also produced the Army's first material research nuclear reactor in 1960. Contaminants found in the soil, surface water, and groundwater include PCBs, PAHs, pesticides, VOCs, and radiological contamination.</p>	<p>Remedial investigation for treatment of contaminated soils and groundwater is underway. A FAA became effective in May 1995. Radiological decontamination work is nearly complete. Since this is a Federal facility site, the proposed liability exemptions and rebates do not apply.</p>	<p>---</p>	<p>---</p>	<p>---</p>

SITE	DESCRIPTION	STATUS OF CLEANUP	Exempt from Liability?	Eligible for Rebate?	Re-Open a ROD?
Natick Laboratory US Army Natick 5-94	The Army constructed the laboratory in 1954 to conduct research and development in the areas of food science and aeromechanical, clothing, material, and equipment engineering. There are two source areas of contamination at the site. Contaminants found in the soil, surface water and groundwater include VOCs, heavy metals, and PAHs.	Remedial investigation underway. No estimate of cost yet. Since this is a Federal facility site, the proposed liability exemptions and rebates do not apply.	---	---	---
Naval Weapons Industrial Reserve Plant Bedford 5-94	The site was owned by the US Navy and operated by Raytheon Company. Activities involved the design and testing of proto-type weapons equipment, such as missile guidance and control systems.	Remedial investigation is underway. A FAA is being negotiated. Since this is a Federal facility site, the proposed liability exemptions and rebates do not apply.	---	---	---
New Bedford Harbor New Bedford 9-83	Manufacturers in the area used PCBs to produce electrical equipment from 1940-1978, and they discharged wastes containing PCBs into the harbor. The Acushet River Estuary and the Bay are highly contaminated with PCBs and heavy metals, and the area has been closed to lobstering and fishing. Contaminants found in the sediments, wetlands, and surface water include PCBs and heavy metals.	Hot spot sediments were removed. Further remedies are under investigation. Estimated total costs (including \$20 - 30 million in recovery costs for natural resource damages) is over \$100 million. The PRPs have entered into cashout settlements with EPA and have completely paid.	---	---	---
Norwood PCBs Norwood 6-86	Beginning in the 1940s, the previous owners of the site used PCBs in the production of electrical components. Contaminants found in the soil, sediments, surface water, and groundwater include PCBs, VOCs, PAHs, and heavy metals.	Cleanup underway. Water treatment plant is completed, but sediment and soil treatment is being re-investigated. Total cleanup costs are ~ \$40 million. The PRPs have entered into cashout settlements with EPA but have only partially paid.	No	Yes	Yes

SITE	DESCRIPTION	STATUS OF CLEANUP	Exempt from Liability? Eligible for Rebate? Re-Open a ROD?
<p>Nyanza Chemical Waste Ashland 9-83</p>	<p>From 1917 - 1978 this site was used to produce textile dyes and related products. Large amounts of industrial waste water were partially treated and discharged into the Sudbury River. Waste was also buried on site. The river is now posted with signs warning against consumption of fish, and local residents have been warned about the dangers. Contaminants found in the soil, wetlands, sediments, surface water, and groundwater include mercury and other heavy metals, chlorinated organics, solvents, and acids.</p>	<p>Cleanup underway. Treatment of soils and sediments is completed, but groundwater treatment is only in the design phase. Estimated total cleanup costs is \$60 million plus pending NRD claims. The PRPs have entered into cashout settlements with EPA and have only partially paid.</p>	<p>No Yes Yes</p>
<p>Otis/Mass. Military Reservation Falmouth 11-89</p>	<p>The base was founded in 1935 to provide training and housing to Air Force and Army units. There are a number of hazardous waste areas on the property, including landfills, fire training areas, fly ash disposal areas, and a sewage treatment plant. In the 1980s the Air Force detected contaminants in several Base wells, and more than 200 private and municipal wells in the area were also found to be contaminated. The groundwater and the nearby wetlands are contaminated with VOCs.</p>	<p>Initial cleanup is underway. Groundwater is being treated, and the landfill is being capped. A FAA was signed in July 1991. A groundwater remedy under design, estimated to cost \$112 million, may not be funded because of recent budget cuts. Since this is a Federal facility site, the liability exemptions and rebates do not apply.</p>	<p>— — —</p>
<p>PCS Resources Palmer 9-83</p>	<p>In the 1970s, this site was a waste oil refinery and solvent recovery plant. The facility reclaimed drained oils and solvents from MA collection points and then treated and sold the oils. Millions of gallons of waste were left behind when the owner abandoned the plant in 1978. Contaminants found in the air, soil, wetlands, surface water, and groundwater include PCBs, arsenic, and VOCs.</p>	<p>Remedy being designed. Over one million gallons of hazardous waste was already removed in initial actions. Estimated cleanup cost is \$3.5 million.</p>	<p>Yes, waste oil exemption — —</p>

SITE	DESCRIPTION	STATUS OF CLEANUP	Exempt from Liability?	Eligible for Rebate?	Re-Open a ROD?
<p>Re-Solve, Inc North Dartmouth 9-83</p>	<p>This site was a former waste chemical reclamation facility. From 1956-1980, the facility handled solvents, waste oils, organic and inorganic liquids and solids, acids, and PCBs. Some waste was disposed of in unlined lagoons which were periodically burned. Waste oil was also spread throughout the site to reduce dust. Fish from the nearby river are contaminated with PCBs and mercury. Contaminants found in the soil, sediments, surface water, and groundwater include PCBs, VOCs, arsenic, and mercury.</p>	<p>Cleanup underway. Treatment of soil is complete, and the ground water treatments will begin in 1996. Estimated cleanup cost is more than \$25 million.</p>	<p>Yes, perhaps waste oil exemption</p>	<p>Yes, if no liability exemption</p>	<p>Yes, if no liability exemption</p>
<p>Rose Disposal Pit Lanesborough 6-86</p>	<p>From 1951 to 1959, the nearby General Electric plant disposed of waste oils and solvents in an open trench at this site. Contaminants found in the soil, sediments, surface water, wetlands, and groundwater include PCBs and VOCs (benzene).</p>	<p>Construction complete. Treatment of groundwater is ongoing. Estimated cleanup cost is \$4.5 million.</p>	<p>No</p>	<p>Yes</p>	<p>Yes</p>
<p>Salem Acres Salem 6-86</p>	<p>From 1946 to 1969 the site received sludge, grit, and grease from the South Essex Sewerage District. The sludge, which contained tannery waste, was placed in unlined, uncovered disposal pits. Contaminants found in the soils and the sludge include PCBs, VOCs, arsenic, and chromium.</p>	<p>Cleanup underway. Two remedies are near completion, and one is in the design phase. Estimated cleanup cost is \$10 million.</p>	<p>Yes, co-disposal exemption</p>	<p>—</p>	<p>—</p>

SITE	DESCRIPTION	STATUS OF CLEANUP	Exempt from Liability?	Eligible for Rebate?	Re-Open ^a ROD?
Shpack Landfill Norton, Attleboro 6-86	This landfill, which operated from 1946 to 1965 until a court forced its closing, received domestic and industrial waste, including inorganic and organic chemicals as well as radioactive waste. Contaminants found in the soil, sediments, surface water, and groundwater include VOCs, heavy metals such as arsenic and chromium, and radionuclides such as radium and uranium.	Remedial investigation stalled due to lack of federal EPA funds. No estimate of cleanup costs yet.	Yes	—	—
Silresim Chemical Corp Lowell 9-83	From 1971 to 1977, Silresim Chemical Corp reclaimed chemical wastes, waste oils, solvents, and sludges containing heavy metals. In 1977, the company declared bankruptcy and abandoned the site, leaving behind 30,000 decaying drums and several large storage tanks of waste. Contaminants found in the soil and the groundwater include PCBs, pesticides, VOCs, heavy metals, and dioxin.	Cleanup underway. Ground water treatment underway, and soil treatment will begin in 1996. Estimated cleanup cost is \$41 million. PRPs have entered into cashout settlements with EPA and have completely paid.	—	—	—
South Weymouth Naval Air Station Weymouth 5-94	The Station was developed during the 1940's as a facility for dirigible aircraft patrolling the North Atlantic during WW II. It has been used as a training facility since 1953.	Remedial investigations are underway. Since this is a Federal facility site, the proposed liability exemptions and rebates do not apply.	—	—	—
Sullivan's Ledge New Bedford 9-84	From 1940s-1970s, local industries used the quarry pits for disposing hazardous materials and other waste including electrical equipment, fuel oil, tires, scrap rubber, and flammable liquids. The City of New Bedford also used the site for municipal waste. The site borders the New Bedford Golf Course as well as the site proposed for a new casino. Contaminants found in the air, soil, surface water, wetlands, and groundwater include PCBs, PAHs, and VOCs.	Remedy being designed. Cleanup to begin late 1996. Estimated cleanup cost is \$20 million.	Yes,	—	—