Environmental Protection Agency

2002 Annual Performance Plan and Congressional Justification

Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response

Strategic Goal: America's wastes will be stored, treated, and disposed of in ways that prevent harm to people and to the natural environment. EPA will work to clean up previously polluted sites, restore them to uses appropriate for surrounding communities, and respond to and prevent waste-related or industrial accidents.

Resource Summary

(Dollars in thousands)

		FY 1999 Enacted	FY 2000 Actual	FY 2001 Enacted	FY 2002 Request
Goal 05	**Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response**	**$1,673,339.5**	**$1,809,956.1**	**$1,517,539.9**	**$1,510,758.2**
Obj. 01	Control Risks from Contaminated Sites and Respond to Emergencies	$1,524,349.8	$1,654,165.4	$1,352,907.6	$1,347,067.2
Obj. 02	Regulate Facilities to Prevent Releases	$148,989.7	$155,790.7	$164,632.3	$163,691.0
	Total Workyears	4,514.0	4,533.5	4,396.1	4,265.8

*For proper comparison with the FY 2002 request, the historic data has been converted to be consistent with the new 2000 Strategic Plan structure. Goal and Objective resources for FY 1999, FY 2000, and FY 2001 may therefore differ from the resources reported in the FY 2001 Annual Plan and Budget and the FY 2000 Annual Report.

Background and Context

Improper management of wastes can lead to serious health threats due to contamination of air, soil, and water, and as a result of fires and explosions. Likewise, improper waste management and disposal can pose threats to those living in nearby communities and can result in costly cleanups. One of the Agency's strategic goals is to ensure proper waste management and disposal to protect human health, endangered wildlife, and vegetation and natural resources from unacceptable risk posed by solid and hazardous wastes. In 2002, EPA will continue to promote safe waste storage, treatment, and disposal, cleanup active and inactive waste disposal sites, and prevent the release of oil and chemicals, including radioactive waste, into the environment.

Means and Strategy

EPA and its partners will continue their efforts to achieve this goal by promoting better waste management, cleaning up contaminated waste sites, and preventing waste-related or industrial accidents. To date, EPA and its partners have made significant progress toward achieving its two primary objectives that address human health and the environment at thousands of Superfund, Brownfields, Resource Conservation and Recovery Act (RCRA), underground storage tank (UST), and oil sites. Brought together by our common interest to protect our health, environment, and livelihoods, EPA and its partners have established an effective structure to manage the nation's hazardous and solid wastes.

One of the objectives of this goal is to reduce or control the unacceptable risks posed to human health and the environment through better waste management and restoration of abandoned waste sites. In partnership with states, tribal governments, the public, and other stakeholders, EPA will reduce or control the risks to human health and the environment at thousands of Superfund, Brownfields, RCRA, and UST sites. EPA's strategy is to apply the fastest, most effective waste management and cleanup methods available, while involving affected communities in the decision making process. The Agency will employ enforcement efforts to further assist in reducing risk to humans from hazardous waste exposure.

The Agency's Office of Solid Waste and Emergency Response (OSWER) recently established objectives specific to Indian tribes to achieve our strategic goal for better waste management in Indian Country and Alaska Native Villages. These objectives stress clean up and prevention assistance to tribes. In meeting these objectives for the OSWER programs, EPA will identify Tribal needs, support and promote the involvement of tribes in implementation activities, and control risks in Indian Country through assessment and clean up of contaminated sites in consultation and partnership with tribes.

To accomplish its Superfund objectives, EPA works with states, tribes, local governments, and other federal agencies to protect human health and the environment and to restore sites to uses appropriate for the nearby communities. Site assessment is the first step in determining whether a site meets the criteria for placement on the National Priorities List (NPL) or for removal action to prevent, minimize or mitigate significant threats. The Agency also provides outreach and education to the surrounding communities to improve their direct involvement in every phase of the cleanup process and understanding of potential site risk, such as risks posed by radioactive materials.

One of the Superfund program's major goals is to have responsible parties pay for and conduct cleanups at abandoned or uncontrolled hazardous waste sites. The Superfund enforcement program maximizes Potentially Responsible Party (PRP) participation and is committed to reforms, which increase fairness, reduce transaction costs and promote economic redevelopment. The Agency also seeks to recover costs associated with a site cleanup from responsible parties when Superfund trust fund monies have been expended.

EPA and its partners will support the cleanup and redevelopment of brownfields communities. Brownfields are abandoned, idled, or underused industrial and commercial properties and are not traditional Superfund sites as they are not generally highly contaminated and present lesser health risks. Economic changes over several decades have left thousands of communities with these contaminated properties and abandoned sites. The Agency's Brownfields initiative encourages the redevelopment of these sites by addressing concerns such as environmental liability and cleanup, infrastructure declines, and changing development priorities.

A significant number of industrial sites, including Federally-owned facilities, are addressed by the RCRA corrective action program, administered by EPA and authorized states. These sites include some of the most intractable and controversial cleanup projects in the country. Approximately 3,500 industrial facilities must undergo a cleanup under the RCRA program. Of these facilities, EPA and state partners have identified over 1,700 facilities as high priority – where people or the environment are likely to be at significant current or potential risk. As evidence of success in meeting this challenge, 500 out of the 1700 high priority facilities have recently documented that both exposure to contamination and further migration of contaminated groundwater have been controlled. Furthermore, the RCRA corrective action program continues to emphasize redevelopment of RCRA "Brownfields" sites.

To accomplish its leaking underground storage tanks (LUST) objectives, the Agency promotes rapid and effective responses to releases from underground storage tanks (USTs) containing petroleum by enhancing state, local, and tribal enforcement and response capability. The Agency's highest priorities in the LUST program over the next several years will be to address the backlog of approximately 160,000 cleanups, and to address LUST sites that are difficult to remediate because they are contaminated by methyl tertiary butyl ether (MTBE) and other oxygenates. The LUST program addresses the threat to groundwater from leaking underground storage tanks that contain petroleum by guiding UST owners and operators to take appropriate measures to clean up releases. The goal is to promote corrective action in partnership with the states to address these cleanup challenges, including those posed by MTBE releases. Nearly all corrective actions are undertaken by UST owners and operators under the supervision of state or local agencies. The Agency oversees these activities in Indian Country.

As part of EPA's efforts to ensure the LUST cleanup goals are achieved, the Agency will also promote the cleanups of USTFields. USTFields are abandoned or underused industrial and commercial properties where redevelopment is complicated by real or perceived environmental contamination from federally-regulated USTs. USTFields pilots demonstrate what can be done to bring more petroleum-impacted Brownfields sites back into productive use for ecological, economic, recreational, or other beneficial purposes.

The other objective of this goal is to prevent, reduce, and respond to releases, spills, accidents or emergencies. Through the UST and RCRA permitting and inspection programs, the Agency and its partners oversee the practices of thousands of facilities. When releases do occur, EPA employees and those of its

partners, who are properly trained and properly equipped, will ensure that the Agency's objective is met by having the capability to successfully respond.

In partnership with the states, the Agency prevents releases, detects releases early in the event they occur, and addresses leaks from USTs containing petroleum and hazardous substances. The strategy for achieving this goal is to promote and enforce compliance with the regulatory requirements aimed at preventing and detecting UST releases, thereby protecting our nation's groundwater. While the vast majority of the 714,000 active USTs have the proper equipment per Federal regulation, significant work still remains to ensure UST owners and operators properly maintain and operate their systems. The Agency's role is to work with states to promote compliance with the spill, overfill, and corrosion protection requirements, and ensure that the leak detection requirements continue to be a national priority. This encompasses compliance for all federally regulated UST systems, including those on private and public property, Tribal lands, and Federal facilities. The Agency has primary responsibility for implementation of the UST program in Indian Country.

For facilities that currently manage hazardous wastes, EPA ensures human health and environmental protection through the issuance of RCRA hazardous waste permits. The RCRA program works with state partners to reduce the risks of exposures to dangerous hazardous wastes by establishing a "cradle-to-grave" waste management framework. This framework regulates the handling, transport, treatment, storage, and disposal of hazardous waste, ensuring that communities are not exposed to hazards through improper management. Hazardous waste management facilities with appropriate controls in place have made significant progress in minimizing the threat of exposure to hazardous substances. To date, 47 states, Guam and the District of Columbia are authorized to issue permits. State authorization for all portions of the RCRA program, including regulations that address waste management issues included in permits, is an important Agency goal. In addition, the Agency has developed a strategy to address solid waste and hazardous waste on Indian lands. A highlight of this strategy is the interagency project with the Indian Health Service and the Bureau of Indian Affairs to address issues surrounding open dumps and their cleanup, the primary waste management concern for tribes.

The Agency's chemical emergency preparedness and prevention program addresses some of the risks associated with the manufacture, transportation, storage and use of hazardous chemicals to prevent and mitigate chemical releases. The program also implements right-to-know initiatives to inform the public about chemical hazards and encourages actions at the local level to reduce risk. Section 112(r) of the Clean Air Act requires an estimated 16,000 facilities to develop comprehensive risk management plans (RMPs) and submit them to EPA, state agencies, and Local Emergency Planning Committees. The Agency believes that states are best suited to implement the RMP program because they benefit directly from its success and they often have established relationships with the communities that may be at risk.

The oil spill program prevents, prepares for, and responds to oil spills mandated and authorized in the Clean Water Act and Oil Pollution Act of 1990. EPA utilizes its appropriated dollars to protect inland waterways through oil spill prevention, preparedness, and enforcement compliance. There are 450,000

non-transportation-related oil storage facilities that EPA regulates. When necessary, the Agency undertakes oil spill response which is funded through a reimbursable agreement with the U.S. Coast Guard.

Research

The FY 2002 research program supports the Agency's objective of reducing or controlling potential risks to human health and the environment at contaminated waste sites by accelerating scientifically defensible and cost-effective decisions for cleanup at complex sites, mining sites, marine spills, and Brownfields in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund. The research program will: 1) provide improved methods and dose-response models for estimating risks from complex mixtures contaminating soils and groundwater; 2) provide improved methods for measuring, monitoring, and characterizing complex waste sites in terms of soils and groundwater; and 3) develop more reliable technologies for cleanup of contaminated soils and groundwater. The Superfund Innovative Technology Program (SITE) fosters the development, use, and acceptance of lower cost characterization and cleanup technologies. In FY 2002, EPA will deliver the annual SITE report to Congress, which provides program/project status and cost savings information.

EPA regulates waste identification, waste management, and combustion under the Resource Conservation and Recovery Act (RCRA). These programs constitute the three major areas of research under RCRA in FY 2002 as the Agency works towards preventing releases through proper facility management. Waste identification research will focus on multimedia, multi-pathway exposure modeling and environmental fate and transport-physical estimation in support of risk-based exemption levels for wastes; development of targeted exemptions of waste streams that do not pose unacceptable risks; and efforts to streamline the waste delisting process. These risk-based efforts could significantly reduce compliance costs while maintaining EPA's goal to protect human health and the environment. Waste management research will focus on developing more cost-effective ways to manage/recycle non-hazardous wastes and will examine other remediation technologies, while combustion research will continue to focus on characterizing and controlling releases of metals from waste combustion.

Strategic Objectives and FY2002 Annual Performance Goals

Objective 01: Control Risks from Contaminated Sites and Respond to Emergencies

- 172 (for a cumulative total of 986 or 57%) of high priority RCRA facilities will have human exposures controlled and 172 (for a cumulative total of 909 or 53%) of high priority RCRA facilities will have groundwater releases controlled.

- EPA and its partners will complete 23,000 Leaking Underground Storage Tank (LUST) cleanups for a cumulative total of approximately 294,000 cleanups since 1987.

- EPA will provide additional site assessment funding to 38 new communities, and to 38 existing communities, resulting in a cumulative total of 2,750 properties assessed, the generation of 14,000 jobs, and the leveraging of $3.4 billion in cleanup and redevelopment funds since 1995.

- EPA and its partners will complete 65 Superfund cleanups (construction completions) to achieve the overall goal of 897 construction completions by the end of 2002.

- Ensure trust fund stewardship by getting PRPs to initiate or fund the work and recover costs from PRPs when EPA expends trust fund monies. Address cost recovery at all NPL and non-NPL sites with a statute of limitations (SOL) on total past costs equal to or greater than $200,000.

- Maximize all aspects of PRP particicipation which includes maintaining PRP work at 70% of the new remedial construction starts at non-Federal Facility Superfund, and emphasize fairness in the settlement process.

- Continue to make formerly contaminated parcels of land available for residential, commercial, and industrial reuse by addressing liability concerns through the issuance of comfort letters and Prospective Purchaser Agreements (PPAs).

- Provide at least 6 innovative approaches that reduce human health and ecosystem exposures from DNAPLs and MTBE in soils and groundwater, and from oil and persistent organics in aquatic systems.

- Within 18 months after final listing on the NPL, EPA will make a final offer for an interagency agreement (IAG) that is consistent with Agency policy and guidance at 100% of Federal facility Superfund sites.

Objective 02: Regulate Facilities to Prevent Releases

- 82 additional hazardous waste management facilities will have approved controls in place to prevent dangerous releases to air, soil, and groundwater, for a total of 71% of 2,750 facilities.

- EPA and its state and tribal partners will achieve levels of 75% UST compliance with EPA/State leak detection requirements; and 96% of UST compliance with EPA/State December 22, 1998 requirements to upgrade, close or replace substandard tanks. (EPA is in the process of changing the way it measures compliance, including changing from a per tank, to a per facility basis.)

- Certify that 6,000 55 gallon drums of radioactive waste (containing approximately 18,000 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.

Highlights

In 2002, EPA and state cleanup actions will protect human health by reducing the effects of uncontrolled releases on local populations and sensitive environments. The Agency will build on past successes in cleaning up sites. The following accomplishments provide examples of what has been done by the Agency to achieve its goal:

- cleaned up 757 Superfund National Priorities List Sites through FY 2000;
- completed over 6,200 Superfund removal response actions from 1982 through FY 2000;
- secured PRP commitments, over the life of the Superfund program, with an estimated value of over $18 billion (over $14.9 billion in response settlements and more than $3.1 billion in cost recovery settlements);
- resolved potential liability of 22,800 small volume waste contributing parties through 460 de minimis settlements;.
- responded to an average of 70 oil spills and monitored 130 oil spill cleanups in a typical year;
- signed more than 360 agreements for brownfields assessment pilots, over 100 agreements for brownfields cleanup revolving loan fund, and 37 for job training through 2000;
- 504 of approximately 1,700 high priority RCRA sites targeted for aggressive risk reduction have met GPRA Environmental Indicator goals;
- 65% of approximately 2,750 hazardous waste management facilities have controls in place;
- 86% of USTs are in compliance with the 1998 deadline requirements;
- Cleaned up 250,000 leaking underground storage tanks since 1987;
- Funded 10 USTFields pilots.

In 2002, EPA will complete construction at 65 private and Federal Superfund sites for a cumulative total of 897. The Agency will also take action to address contamination at 285 sites using removal authorities. The Superfund enforcement program will also obtain PRP commitments to initiate work at 70% of construction starts at non-Federal facility sites on the NPL and to conduct or fund removals.

In 2002, the Superfund redevelopment initiative will facilitate the return of additional Superfund sites to productive reuse. The Agency has compiled a list of over 190 Superfund sites that have been recycled. At these sites, more than 13,000 acres are now in ecological or recreational use. Approximately 14,500 jobs, representing more than $450 million in annual income are located at sites that have been recycled for commercial use.

The Agency is working to improve its response capability, workforce safety, and coordination with our Federal and local partners to support the national effort of responding to a terrorist event. Terrorist threats could include biological, chemical and radiological attacks on populations in the United States.

The Brownfields Initiative coordinates Federal and State efforts to address environmental site assessment and cleanup. EPA's Brownfields program has experienced a growth in applications for new and supplemental pilots, averaging 198 applications per year. In 2002, half of the $5 million new investment in brownfields will be used to award additional assessment demonstration pilots with the funds going directly to states, tribes, and local governments. The Agency will provide funding and technical support to 38 new assessment demonstration pilots and 38 existing assessment demonstration pilots. These pilots provide states (including U.S. territories), political subdivisions (including cities, towns, and counties), and federally recognized tribes with useful information and new strategies for promoting a unified approach to environmental site assessment and characterization, and redevelopment. In addition, the Agency and its Federal partners will continue to support the existing 28 showcase community pilots which serve as models to demonstrate the benefits of interagency cooperative efforts in addressing environmental and economic issues related to brownfields. The showcase communities capitalize on a multi-agency partnership designed to provide a wide range of support depending on the particular needs of each community. In addition, the President's budget proposes that the Brownfields tax incentive be made permanent.

The Agency will also provide funding to states for activities that are part of brownfields site assessment pilots. These activities include facilitating communication among brownfields pilots and with state environmental authorities. In addition, the Agency will provide funding for the development or enhancement of state voluntary cleanup programs. The 2002 request for the Brownfields program will increase funding to the states for voluntary cleanup programs and targeted brownfields assessments.

To further enhance communities' capacities to respond to Brownfields redevelopment, the Agency will award brownfields cleanup revolving loan funds (BCRLF) pilots to 29 communities. All communities with brownfields properties are eligible to apply. EPA offers grants to governmental entities which may discount loans to nonprofit or other government entities. In addition, EPA will award 10 job training pilots for community residents and will provide $3,000,000 to the National Institute of Environmental Health Sciences to supplement its minority worker training programs that focus on brownfields workforce development activities. In addition, EPA will continue to explore connections between RCRA low-priority corrective action efforts and cleanup of brownfields properties.

In 2002, 172 additional high priority RCRA facilities will have current human exposures under control and 172 additional high priority RCRA facilities will have migration of contaminated groundwater under control. To accomplish its RCRA objectives, the Agency has improved the pace of cleanups through administrative reforms announced in 1999 and 2001. The 1999 reforms successfully established an environment for program implementers to be innovative and results-oriented. To reinforce and build upon the 1999 reforms, the Agency announced a second round of administrative reforms in 2001 with the theme of "fostering creative solutions." The Agency developed these reforms, with input from states, industry and environmental organizations, to accomplish the following objectives: pilot innovative approaches, accelerate the changing culture, connect communities to cleanups, and capitalize on redevelopment potential. As

evidence of the success of the reform effort thus far, EPA recently announced that 500 high-priority facilities had met both GPRA goals.

In 2002, the RCRA hazardous waste permits program will have permits or other approved controls in place for 82 additional RCRA hazardous waste management facilities for a cumulative total of 71 percent of the universe (2,750 facilities). These efforts minimize the threat of exposure to hazardous substances because the RCRA program's comprehensive framework regulates the handling, transport, treatment, storage, and disposal of hazardous waste.

The Agency has several efforts underway to reform the RCRA program so that it better reflects actual levels of risk. The hazardous waste identification rule and follow-up efforts seek to exclude lower risk wastes from hazardous waste regulation. In 2002, the Agency plans to develop exemptions for specific low-concern wastes as well as concentration-based exemption levels for constituents occurring in hazardous wastes. The Agency is working to improve test methods under its toxic constituent leaching procedure to better evaluate waste leaching potential for assessing whether a waste should be classified as hazardous and the effectiveness of treatment.

As the maximum achievable control technology (MACT) standards for hazardous waste incinerators and kilns are implemented, emissions of dioxins, furans, toxic metals, acid gases and particulate matter from these sources will be reduced. These efforts are intended to further reduce the indirect exposure to hazardous constituents in emissions, especially to children. Implementation efforts accelerate in 2001 and focus on the transition from RCRA to Clean Air Act (CAA)/ MACT air emissions permitting and tracking of facility progress. In 2000, the Agency initiated work on Phase II MACT standards for hazardous waste burning boilers and halogen acid furnaces. The Agency plans to propose the Phase II rule in 2002 to address emissions of dioxins, furans, toxic metals, and particulate matter.

In 2002, the Agency will work with states and industry to complete voluntary guidelines for industrial non-hazardous waste management and will begin implementation. These voluntary guidelines address a range of issues including groundwater contamination, air emissions, and alternatives to waste disposal.

Based on EPA's minimum national standards for municipal solid waste (MSW), states regulate landfill practices. The Agency has worked with states to review the national standards and is initiating regulatory revisions to provide additional flexibility so that compliance is less costly and easier to achieve.

In FY 2002, the Agency's LUST program will create and foster improved Federal, State and local partnership efforts to assess, cleanup, and help coordinate the redevelopment of USTField tank sites. The Agency will work with states to increase the pace at which LUST cleanups are initiated and completed, especially in respect to MTBE releases. The Agency's goal is to ensure that 23,000 LUSTs are cleaned up in conjunction with our State, local, and Tribal partners.

Reducing chemical accidents is vital to ensure that communities are not exposed to hazardous materials. The Agency continues its efforts to help states and local emergency planning committees implement the risk management plan (RMP) program. EPA has made steady progress in this area and, in 2002, it will delegate the program to two additional states for a cumulative total of seventeen. To reach this goal, EPA will provide technical assistance grants, technical support, outreach, and training to state and local emergency planning committees. Through these activities, states, local communities and individuals will be better prepared to prevent and prepare for chemical accidents.

Oil spills pose risks to human health and the environment. The Federal oil spill program prevents, responds to and monitors oil spills that occur in the waters of the United States and adjoining shorelines. Over 24,000 spills are reported annually, about half of these in the inland zone which is EPA's jurisdiction. EPA responds to approximately 70 significant spills a year and monitors the work of others at approximately 130 additional spills a year. To reduce the risk of hazardous exposure to people and the environment, the Agency aims to prevent oil spills from occurring, prepare for oil spills that do occur, and respond to spills when necessary.

Research

In FY 2002, contaminated sites research will be conducted to: 1) reduce uncertainties associated with soil/groundwater sampling and analysis and to reduce the time and cost associated with site characterization and site remediation activities; 2) evaluate the magnitude of the risks posed by contaminants to human health and the ecosystem, the contributions of multiple exposure pathways, the bioavailability of adsorbed contaminants and treatment residuals and the toxicological properties of contaminant mixtures; and 3) develop and demonstrate more effective and less costly remediation technologies involving complex sites and hard-to-treat wastes.

Waste Management research will support the Hazardous Waste Identification Rule (HWIR) and the study of improved ways to minimize waste releases and impacts. In FY 2002, research will focus on reducing the uncertainty associated with exposure assessment model predictions by providing improved data and models for quantifying pollutant interactions in a variety of natural systems. In addition, EPA plans to develop additional targeted exemptions from the hazardous waste mixture and derived from rules, as part of its efforts to better estimate risk and regulatory standards. The research also provides consultation on sampling and sample design related to compliance with proposed exit levels (levels below which a waste is excluded from regulation) in support of the HWIR. In FY 2002, EPA plans to update the HWIR99 modeling methodology for delisting hazardous wastes. Additionally, waste management research will be conducted to improve the management of both solid and hazardous wastes. This includes development and/or evaluation of more cost-effective waste treatment, containment, and recycling processes, along with technical guidance on their design and implementation.

External Factors

There are a number of external factors that could substantially impact the Agency's ability to achieve the outlined objectives under this goal. These include reliance on private party response and state partnerships, development of new environmental technology, work by other federal agencies, and statutory barriers.

The Agency's ability to achieve its goals for Superfund construction completion is partially dependent upon the performance of cleanup activities by other Federal agencies, such as the Department of Defense (DOD) and the Department of Energy (DOE). In addition to the construction completion goal, the Agency must rely on the efforts of DOD and DOE to establish and maintain the Restoration Advisory Boards (RABs)/Site Specific Advisory Boards (SSABs). RABs and SSABs provide a forum for stakeholders to offer advice and recommendations on restoration of Federal Facilities. There are other EPA goals that rely on activities with other entities, such as PRP negotiations and agreements with states and tribes.

For the RCRA program, the Agency's ability to achieve its goals in release prevention and cleanup is heavily dependent on State participation. In most cases, states have received authorization (hazardous waste management program) or approval (municipal solid waste landfill permit program) and are primary implementors of these programs. As such, EPA relies on states to perform many of the activities needed to achieve these targets. State programs are also primarily responsible for implementing the UST/LUST program. The Agency's ability to achieve its goals is dependent on the strength of State programs and State funding levels and will therefore continue to work with states to strengthen their UST/LUST and RCRA programs.

For the risk management and anti-terrorism programs, the Agency recognizes that accident prevention and response, as well as preparedness for terrorist incidents, are inherently local activities. To succeed, the program relies on the commitment and accomplishments of the various stakeholders, including industry, State and local government, and other Federal partners. EPA's success will depend upon the willingness and ability of stakeholders to deliver on the commitments and obligations in their plans.

Environmental Protection Agency

2002 Annual Performance Plan and Congressional Justification

Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response

Objective #1: Control Risks from Contaminated Sites and Respond to Emergencies

By 2005, EPA and its federal, state, tribal and local partners will reduce or control the risk to human health and the environment at more than 374,000 contaminated Superfund, RCRA, Underground Storage Tank (UST) and brownfields sites and have the planning and preparedness capabilities to respond successfully to all known emergencies to reduce the risk to human health and the environment.

Resource Summary
(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Actual	FY 2001 Enacted	FY 2002 Request
Control Risks from Contaminated Sites and Respond to Emergencies	**$1,524,349.8**	**$1,654,165.4**	**$1,352,907.6**	**$1,347,067.2**
Environmental Program & Management	$46,813.0	$55,907.5	$63,891.8	$63,806.0
Science & Technology	$57,397.5	$53,485.8	$50,359.7	$5,825.4
State and Tribal Assistance Grants	$24,808.8	$24,818.4	$32,736.4	$32,736.4
Leaking Underground Storage Tanks	$70,356.8	$70,205.9	$70,322.1	$69,651.5
Oil Spill Response	$962.0	$1,068.7	$936.8	$907.1
Hazardous Substance Superfund	$1,324,011.7	$1,448,679.1	$1,134,660.8	$1,174,140.8
Total Workyears	3,728.2	3,682.5	3,604.2	3,474.9

Key Programs
(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
RCRA Corrective Action	$31,059.9	$36,610.5	$40,622.3	$41,183.2
RCRA State Grants	$24,808.8	$24,808.8	$32,736.6	$32,736.4
Federal Preparedness	$11,307.5	$11,028.2	$12,859.3	$12,963.4
Leaking Underground Storage Tanks (LUST)Cooperative Agreements	$58,990.0	$56,466.8	$58,341.3	$58,269.3
Superfund Remedial Actions	$585,181.4	$499,799.0	$492,045.7	$492,408.2
Superfund Removal Actions	$199,216.8	$200,860.3	$198,638.1	$202,618.8
Federal Facilities	$29,368.2	$27,750.6	$30,624.6	$30,795.2
Assessments	$87,712.3	$83,857.7	$82,701.5	$77,651.3
Brownfields	$92,603.2	$92,215.1	$92,608.6	$97,420.5
ATSDR Superfund Support	$76,000.0	$70,000.0	$0.0	$0.0
NIEHS Superfund Support	$60,000.0	$60,000.0	$0.0	$0.0
Other Federal Agency Superfund Support	$10,000.0	$10,000.0	$10,676.5	$10,676.5
Hazardous Substance Research:Hazardous Substance Research Centers	$4,529.8	$2,504.7	$4,527.7	$4,606.0
Hazardous Substance Research: Superfund Innovative Technology Evaluation (SITE)	$7,695.9	$7,017.3	$6,554.0	$6,636.9
EMPACT	$398.4	$35.5	$0.0	$0.0
Common Sense Initiative	$135.6	$0.0	$0.0	$0.0
Civil Enforcement	$72.4	$0.0	$0.0	$0.0
Compliance Assistance and Centers	$558.3	$514.1	$517.9	$512.1
Superfund - Maximize PRP Involvement (including reforms)	$87,857.2	$82,009.6	$81,473.8	$78,355.7

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
Superfund - Cost Recovery	$30,580.6	$30,269.1	$29,495.5	$28,121.1
Superfund - Justice Support	$29,000.0	$28,663.5	$28,437.3	$28,150.0
Planning and Resource Management	$0.0	$0.0	$26.4	$26.4
Rent, Utilities and Security	$0.0	$45,965.7	$45,147.0	$45,567.6
Administrative Services	$6,144.3	$15,025.3	$20,516.8	$21,459.0
Regional Management	$0.0	$6,829.2	$8,013.3	$8,544.8

FY 2002 Request

Leaking Underground Storage Tanks

The leaking underground storage tanks (LUST) program promotes rapid and effective responses to releases from underground storage tanks (USTs) containing petroleum by enhancing state, local, and tribal enforcement and response capability. In FY 2002, the Agency's goal is to complete 23,000 cleanups under the supervision of EPA and its state, local and tribal partners. The LUST program addresses the threat to groundwater from leaking underground storage tanks that contain petroleum by guiding UST owners and operators to take appropriate measures to clean up releases. The goal is to promote corrective action in partnership with the states to address these cleanup challenges, including those posed by MTBE releases. Nearly all corrective actions are undertaken by UST owners and operators under the supervision of state or local agencies. The Agency oversees these activities in Indian Country.

As part of EPA's efforts to ensure the LUST cleanup goals are achieved, the Agency will also promote the cleanup of USTFields. USTFields are abandoned or underused industrial and commercial properties where redevelopment is complicated by real or perceived environmental contamination from federally-regulated USTs. USTFields pilots demonstrate what can be done to bring more petroleum-impacted Brownfields sites back into productive use for ecological, economic, recreational, or other beneficial purposes.

The Agency's highest priorities in the LUST program over the next several years will be to address the backlog of approximately 160,000 cleanups and to address LUST sites that are difficult to remediate because of MTBE and contamination from other oxygenates. To address these LUST sites and to help states make more efficient use of their resources, including state funds that reimburse some UST owners and operators for a portion of their cleanup costs, the Agency will continue to support cooperative

agreements, using funds from the LUST Trust Fund, under which states oversee cleanups by UST owners and operators. In cases where the responsible owner or operator is unknown, unwilling, or unable to clean up releases, the LUST Trust Fund is able to pay for this activity.

To be effective, remediation technologies continue to advance, especially to address recalcitrant contaminants, such as MTBE. As substitutes are sought for MTBE, and as the composition of gasoline changes in response to changing engine performance requirements, states will face the continuing challenge of training new staff in the new remediation and site investigation technologies.

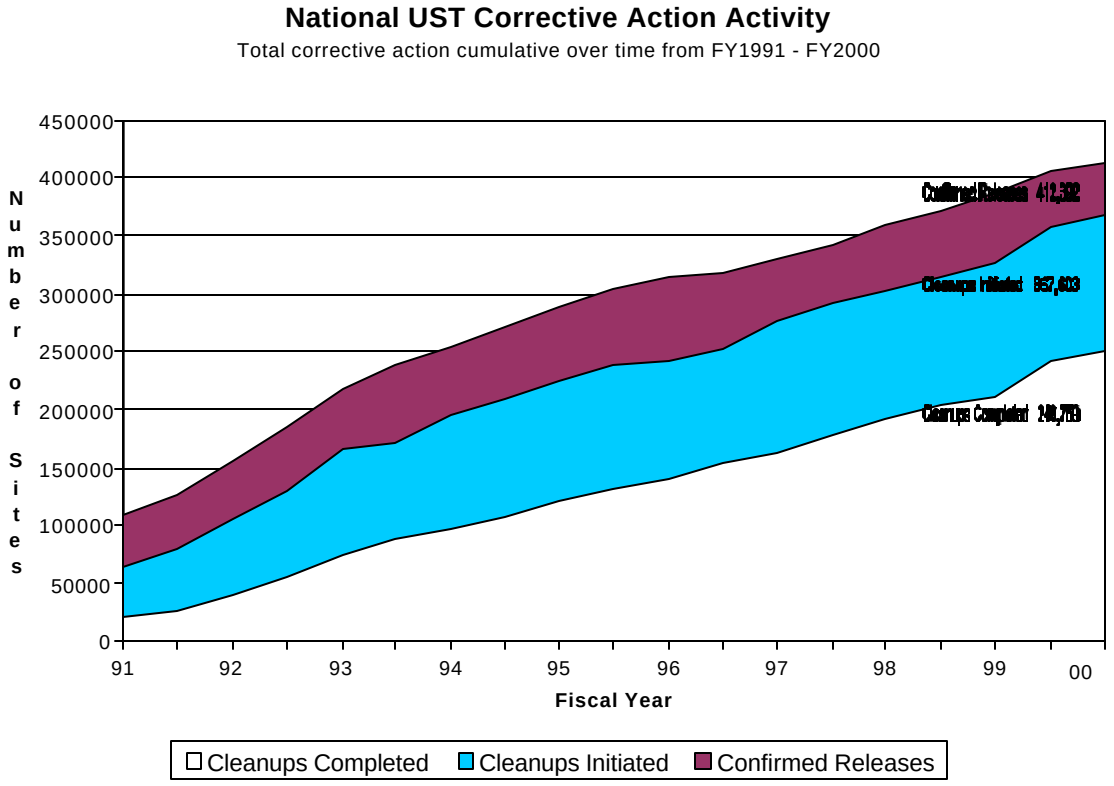
The Agency's LUST program will support state efforts to make cleanups better, cheaper and faster. A majority of documented MTBE-contamination incidents are from LUST systems. The Agency will continue to analyze available data on the magnitude of the MTBE problem and potential cleanup solutions, and will launch an extensive outreach effort to communicate the most up-to-date information on this problem. At the same time, the Agency will support work to determine the size and extent of the MTBE contamination.

The Agency will provide states and tribes with technical support and incentives to meet national LUST cleanup targets. Technical support and incentives will include promoting multi-site cleanup agreements, conducting cleanup pilots to test the benefits of incentive-based cleanups (e.g., Pay-For-Performance), and providing other tools which will help states and the tribes achieve faster, less expensive, and more effective LUST cleanups.

In FY 2002, the Agency will support the USTFields initiative with funding for USTFields pilots. These pilots will demonstrate what can be done to bring more petroleum-impacted Brownfields sites back into productive use for ecological, economic, recreational, or other beneficial purposes. Partnerships will be used to assess, cleanup, and coordinate subsequent redevelopment of these tank sites. A cumulative total of 50 USTFields pilots are planned to be awarded by the end of FY 2002. These pilots are selected from existing EPA redevelopment projects with possible petroleum contamination, such as Brownfields pilots and/or showcase communities, and Superfund or RCRA redevelopment communities, with a priority for USTFields pilots that assess for MTBE contamination. Of the estimated 450,000 Brownfields sites in the United States, approximately 100,000 to 200,000 contain abandoned underground storage tanks or are impacted by petroleum leaks from these tanks. However, petroleum contamination is generally excluded from coverage under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and is not covered under the Agency's Brownfields program. As a result, the cleanup and subsequent redevelopment of properties containing abandoned underground storage tanks are either not occurring or are delayed. States will work closely with their local governments to select pilot sites according to their individual state priorities.

The Agency has primary responsibility for implementing the LUST program in Indian Country. EPA oversees and conducts site assessments and remediation, and educates owners and operators about the UST requirements. Through the end of September 2000, there were 1,121 confirmed releases, 856

cleanups initiated, and approximately 502 cleanups completed. The Agency projects that cleaning up all known and yet-to-be-discovered releases in Indian Country will take several more years. When owners and operators are unable or unwilling to pay for corrective action, the Agency may use funding from the LUST Trust Fund to pay for cleanups. Non-demonstration grants will continue to help tribes develop the capability to administer their own programs.



Superfund

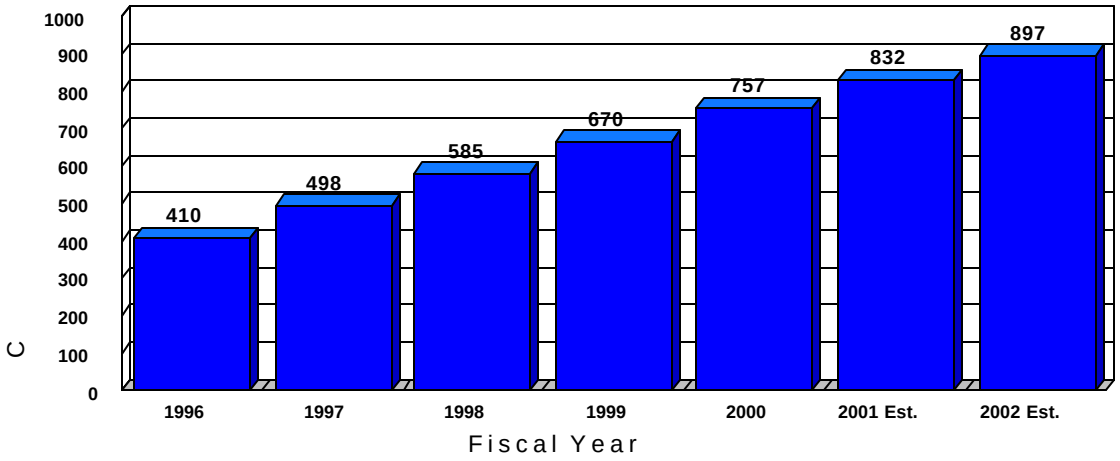
The Superfund program addresses contamination from uncontrolled releases at Superfund hazardous waste sites that threaten human health, the environment, and the economic vitality of some local communities. Superfund sites with contaminated soils and groundwater occur nationally in a large number of communities, many of them urban areas, where they are often accessible to children or present exposure to disadvantaged populations. Once contaminated, groundwater and soils may be extremely difficult and costly to cleanup. Some sites will require decades to complete. In 2002, EPA will complete construction at 65 NPL sites for a cumulative total of 897.

To protect human health and the environment and address potential barriers to redevelopment, EPA works with states, Indian tribes, and other Federal agencies to: 1) assess sites and determine whether they meet the criteria for Federal Superfund response actions; 2) prevent, minimize or mitigate significant

threats at Superfund sites through removal actions; 3) generate accurate risk assessment and cost-performance data critical to providing the technical foundation for decisions made in environmental cleanup programs; 4) complete remedial cleanup construction at sites listed on the NPL; 5) develop technologies for cost-effective characterization and remediation; 6) enhance the role of states and Indian tribes in the implementation of the Superfund program; 7) work with the surrounding communities to improve their direct involvement in every phase of the cleanup process and their understanding of potential site risk; and 8) promote reuse and redevelopment of Superfund sites.

As of September 2000, EPA had completed all final cleanup plans at over 1,000 Superfund NPL

Cumulative Construction Completions



sites and undertaken almost 6,200 removals at hazardous waste sites to immediately reduce the threat to human health and the environment. The Agency also has cleanup construction underway or completed at 92% of the sites on the final NPL (1,450 sites), including:

- 52% of sites have all cleanup construction completed (757 sites)
- 28% of sites have remedial cleanup construction underway (410 sites)
- 13% of sites have had or are undergoing a removal cleanup action (159 sites).

Additionally, environmental data gathered by EPA through September 2000 shows that Superfund continues to fulfill its environmental mission and is reducing the risks to human and ecological health posed by dangerous chemicals in the air, soil, and water. Since the inception of the Superfund program, EPA has: 1) provided alternative water supplies to over 498,000 people at NPL and non-NPL sites to protect them from contaminated ground and surface water; 2) relocated over 29,000 people at NPL and non-NPL sites in instances where contamination posed the most severe immediate threats; 3) cleaned 467 million cubic yards of hazardous solid waste; and, 4) cleaned 353 billion gallons of hazardous liquid waste.

EPA's efforts to address uncontrolled releases at Superfund sites begin when states, Indian tribes, citizens, other Federal agencies, or other sources notify EPA of a potential or confirmed hazardous waste site or incident. EPA confirms this information and places sites requiring Federal attention in the Agency's comprehensive environmental response, compensation and liability information system database (in the case of Federal facilities, sites are placed on the Federal facility hazardous waste docket). These sites are then assessed to determine whether Federal action is needed. In most cases, EPA makes a determination that no further Federal action is appropriate. These sites are removed from the inventory and EPA may refer the site to State or Tribal environmental authorities for further attention, if warranted. For those sites where additional action is needed to protect public health and the environment, EPA seeks the course of action best suited to the individual site. Sites posing immediate risks may be addressed under removal authority. Federal action may be delayed or avoided at sites with ongoing State action. In some instances, potentially responsible parties enter into agreements with EPA to evaluate or cleanup sites prior to listing on the NPL. In such cases, where cleanup at these sites is progressing in a timely and protective manner or is completed prior to final listing, listing on the NPL may be unnecessary. Some sites may be addressed under both removal and remedial authorities when, for example, early removal action is taken to address risks at sites on the NPL. As a matter of policy, EPA seeks the governor's concurrence before listing sites on the NPL.

Removal authority under CERCLA is used by EPA to prevent, reduce or mitigate threats posed by releases or potential releases of hazardous substances, pollutants, and contaminants in emergency and non-emergency situations at NPL and non-NPL sites. EPA undertakes removal response actions at: 1) emergency incidents where response is necessary within a matter of hours (e.g., threats of fire or explosion); 2) time-critical incidents posing public health and environmental threats; and 3) non-time critical situations at both NPL and non-NPL sites to promote quicker and less costly cleanup. Sites known to pose the greatest potential risk to public health and the environment receive priority.

For sites listed on the NPL, remedial work begins with site characterization and feasibility study to review site conditions and proposals for future land use. This forms the foundation for the record of decision and remedy selection. Public involvement is a key component in selecting the proper remedy at a site. A remedial action is performed upon approval of the remedial design and represents the actual construction or other work necessary to implement the remedy selected. Remedial action work is performed by potentially responsible parties or other Federal Agencies, or by EPA, or states, as Fund-financed actions.

Although completion of construction is a major milestone in the Superfund program, many activities occur at a site after this milestone is achieved. These "post-construction" activities include the following: 1) oversight of operation and maintenance activities performed by the states and PRPs to ensure cleanup methods work properly and the site remedy continues to be protective; 2) operation of fund-financed ground water restoration systems for up to 10 years (long-term response), and oversight of states and PRPs operating these systems until cleanup goals are achieved; 3) implementation of institutional controls and oversight to ensure they remain protective; 4) five-year reviews to assure that remedies remain

protective; 5) optimization of ground water remediation systems to improve performance and/or reduce costs; and 6) site deletion from the NPL. As more sites move into post-construction, the Agency is devoting more resources to assure adequate long-term stewardship.

EPA is committed to involving citizens in the site cleanup process. Superfund community relations are based on two-way communication designed to keep citizens informed about site progress and give them the opportunity to provide input on site decisions. EPA conducts outreach efforts, such as holding public meetings, establishing community advisory groups, providing communities with financial assistance to hire technical consultants to assist them in understanding the problems and potential solutions to the contamination problems, and distributing site-specific fact sheets. EPA strives to create a decision-making process to clean up sites that the communities feel is open and legitimate, and improves the community's understanding of potential risk at hazardous waste sites.

States and Indian tribes are key partners in the cleanup of Superfund hazardous waste sites. EPA can authorize the states or tribes to carry out a fund-financed response. However, states and tribes more often operate as a support agency. In this role, they are actively involved in site response activities, but they do not take on a lead role. To support their involvement as a lead or support agency, EPA provides financial support through cooperative agreements to conduct removal, site assessment, remedial, and enforcement projects and for core infrastructure activities.

Under core program cooperative agreements, EPA provides non-site-specific funds to develop, maintain and enhance state and tribal capacity to manage and implement CERCLA responses. EPA currently has core program cooperative agreements with 46 states and 15 tribes. Activities funded under the core program cooperative agreements include the following: 1) establish and update procedures for emergency responses and longer-term remediation procedures which include developing and updating of generic health and safety plans, quality assurance project plans, and community relations plans; 2) develop/update provisions for satisfying all requirements and assurances which include fiscal and contract management activities for CERCLA; 3) provide legal assistance relating to CERCLA, such as document review for legal sufficiency, development and refinement of the enforcement program, development of legal authorities, and legal assistance for coordinating applicable or relevant and appropriate requirements (ARAR) identification; and 4) hire and train staff to manage publicly-funded cleanups.

In May 1998, EPA released the "Plan to Enhance the Role of States and Tribes in the Superfund Program." The plan was developed so that EPA can share Superfund program responsibilities more fully with interested and capable states and tribes, enabling the cleanup of more sites. In 1999 and 2000, EPA implemented the plan. Seventeen pilots were approved with eight states and nine tribes. In January 2001, EPA completed the evaluation of the plan and issued a directive to communicate national expectations for the continued use of the plan to enhance the role of states and tribes in the Superfund program.

Across the country, thousands of Federal facilities are contaminated with hazardous waste, unexploded ordnance (UXO), radioactive waste, fuels, and a variety of other toxic contaminants. These facilities include many different types of sites, such as formerly used defense sites, abandoned mines, nuclear weapons' production plants, military ranges, fuel distribution areas, and landfills. EPA's Federal Facilities Restoration and Reuse Office (FFRRO) works with the Department of Defense (DOD), the Department of Energy (DOE), other Federal agencies, states, tribes and the public to find protective, creative, and cost-effective cleanup solutions, when appropriate, to encourage restoration and reuse. The Federal facilities program provides technical and regulatory oversight at Federal facilities on the NPL to ensure protection of human health, effective program implementation, and meaningful public involvement. The Agency encourages citizen involvement by working with DOD to establish restoration advisory boards and DOE to establish site specific advisory boards.

The Superfund Federal Facilities Response program works with a large number of ongoing projects: 469 remedial investigations/feasibility studies, 69 remedial designs, and 216 remedial actions. In many cases, Federal facilities face unique challenges due to the types of contamination (e.g., radiation, UXO), the size of the facility (e.g., Hanford is over 500 square miles), or the complexities of reuse related to environmental issues (e.g., base closure).

In an effort to better implement the Agency's Quality Assurance Order and in response to recommendations from the EPA Office of Inspector General, EPA is enhancing the quality management activities of its Superfund program office. This work entails the implementation of a quality management plan based on an adaptation of the American National Standard "Specifications and Guidelines for Quality Systems for Environment Data Collection and Environmental Technology Programs," ANSI/ASQC E-4-1994, that will establish requirements for headquarters. As part of implementation, training and orientation will be required. Establishing the quality management plan will not complete this activity; rather it will initiate a continuing process that is vital to assure critical environmental cleanup decisions are based on reliable information and are technically sound.

EPA has significantly improved the Superfund program largely as a result of reforms and reinvention continuously implemented since 1989 (e.g., "enforcement first"). These efforts will continue in 2002. Over the years, Superfund has amassed many noteworthy achievements. Key accomplishments through the end of 2000 include: 1) establishing 66 community advisory groups at sites across the country; 2) reviewing 51 new site decisions for an estimated savings of over $80 million; 3) saving more than $1.3 billion in future costs from updating over 350 existing remedies; 4) evaluating over 40 planned projects to establish funding priorities based on site risks; and 5) archiving over 32,300 CERCLIS sites to help promote the economic redevelopment of these properties. Superfund has successfully integrated many of its reforms into the program, and they are continuing to produce positive results.

The Superfund redevelopment initiative is a coordinated national effort to facilitate the return of Superfund sites to productive use. EPA has become increasingly aware of the importance of fully exploring

future use opportunities at Superfund sites with its partners before selecting and implementing a cleanup remedy. This has resulted in Superfund sites, which were once thought to be unusable, that are now being "recycled" back into productive use. EPA has compiled a list of over 190 Superfund sites that have been recycled. At these sites, more than 13,000 acres are now in ecological or recreational use. Approximately 14,500 jobs, representing more than $450 million in annual income, are located at sites that have been recycled for commercial use. EPA believes it can help to significantly increase the number of sites in productive reuse by focusing its efforts more on the potential reuse of Superfund sites, and by involving its partners in determining the reasonably anticipated future uses of sites so that it can select, design and implement cleanups that are consistent with those uses, while protecting human health and the environment. Fifty pilot sites have been awarded, providing up to $100,000 in direct financial assistance and/or services to local communities. These pilots will be evaluated to assess their impact on the Superfund Program and their potential to facilitate site reuse following clean-up.

Federal Preparedness

EPA supports a highly effective national emergency preparedness and response capability. Under the National Response Team (NRT)/Regional Response Teams (RRTs) and the Federal Response Plan (FRP), the Federal government helps states and cities address major incidents that are beyond their capabilities. EPA chairs the NRT and co-chairs the 13 RRTs throughout the U.S. which integrates actions of all Federal partners to prevent, prepare for and respond to hazardous substance and petroleum emergencies.

In 2002, the NRT agencies will implement and test an incident command/unified command system to coordinate response management for all levels of government and the private sector during major incidents. This will reflect recent changes in NRT guidance. In addition, the NRT will broadcast lessons learned about major incidents and exercises, and emergency response procedures on the NRT/RRT Internet site. The NRT will also continue to promote interagency training programs in crisis management response, communicate information on new safety and cleanup technologies, implement mechanisms to coordinate radiological and hazardous materials response, and provide technical assistance for incidents occurring outside the United States.

The FRP provides for the delivery of Federal assistance to states to help them deal with the consequences of significant disasters. EPA has the lead responsibility for the plan's Emergency Support Function covering hazardous materials. An important priority under the FRP is to respond to and protect public health and the environment from the consequences of terrorist events. Under the program, EPA participates with other Federal agencies to implement national security and anti-terrorism requirements. They include the following:

- *Continuity of Operations (COOP) Program.* The Presidential Decision Directive (PDD) #67 requires all Federal Executive Branch departments and agencies to have in place a viable capability to ensure the performance of their essential functions during any emergency or situation that may

disrupt normal operations. During 2002, EPA will conduct individual and team training, testing of alert and notification procedures, and an internal headquarters exercise at the designated alternate facility to enhance the operational capabilities of the Agency's COOP team. The Agency will also continue to review and refine its COOP plans.

C *Critical Infrastructure Protection*. PDD #63 requires EPA (and other Federal agencies) to strengthen Agency and stakeholder defenses against assaults on critical infrastructures, including cyber systems. EPA also has the lead responsibility for coordinating plans and activities with the water supply sector. In 2002, EPA and other Agency partners will concentrate on implementing industry and EPA plans to address the problems, gaps and vulnerabilities that were cited in initial program assessments.

C *Anti-terrorism Emergency Preparedness*. As directed under PDDs #39 and #62, EPA participates in the crisis and consequence management phases of terrorist incident response special events and exercises. The Agency will also prevent and prepare for deliberate releases and coordinate with other Federal agencies to ensure that anti-terrorism activities are integrated with state and local emergency preparedness and response programs and organizations (including State Emergency Response Commissions and Local Emergency Planning Committees under the National Response System).

In 2002, EPA's anti-terrorism program will focus on helping stakeholders to prepare for and respond to nuclear, biological and chemical acts of terrorism. EPA will continue efforts toward ensuring that its on-scene response personnel are trained and equipped to respond to weapons of mass destruction incidents. EPA will also work with its Federal partners to develop federal, state and local planning capabilities, as well as help them to understand the interfaces between the PDD mandates, National Response System and the national Domestic Preparedness Program for terrorist events. These activities will be conducted as part of the Federal government's initiative to ensure that state and local emergency officials are adequately trained.

Radiation Guidance and Support

In 2002, EPA will provide national level guidance on the risks posed by radioactive materials in the environment including technical guidance for conducting risk assessments in order to limit public and environmental exposure to radiation. EPA will accomplish this by working with the public, industry, states, tribes and other government agencies to use information systems and to inform and educate people about radiation risks and promote actions that reduce human exposure. EPA in partnership with other Federal agencies, will promote the management of radiation risks in a consistent safe manner at Superfund site, DOE, DOD, state, local and other Federal sites by:

- Evaluating human health and environmental risks from radiation site exposure, developing models of the environmental transport of radionuclides, and providing a basic understanding of the biological effects of radiation.
C Developing risk assessments, remediation technologies, and measurement and information systems.

- Providing training and direct site assistance including laboratory, field and risk assessment support at sites with actual or suspected radioactive contamination.

The radiation program also maintains an on-going capability to provide radioanalytical and mixed waste analytical data on environmental samples to support site assessment and cleanup activities. Finally, EPA coordinates with other nations on select radiological issues, including risk assessment methodologies and risk management approaches.

Superfund Enforcement

The Superfund enforcement program is critical to the Agency's ability to cleanup the vast majority of the nation's worst hazardous waste sites. In FY 2002, EPA will continue its successful emphasis on completing construction at Superfund sites by obtaining commitments for PRPs to conduct work at new remedial construction starts at non-Federal facility sites and ensuring compliance with Federal facility statutes and CERCLA agreements.

The Superfund enforcement program has successfully encouraged or compelled PRPs to undertake or fund approximately 70% of new remedial construction work at non-Federal facility Superfund sites in recent years. The program focuses on the following efforts: 1) maximizing PRP participation in conducting or funding response actions while promoting fairness in the enforcement process; 2) recovering costs from PRPs when EPA expends funds from the Superfund Trust Fund; and 3) negotiating agreements with Federal facilities for NPL site cleanup. The Superfund program emphasizes "enforcement first" to ensure that sites for which there are viable responsible parties are cleaned up by those parties. In tandem with this approach, various Superfund reforms are being implemented to increase fairness, reduce transaction costs and promote economic redevelopment. The Agency provides fund to the Department of Justice (DOJ) for any interagency agreement (IAG) to assist EPA Superfund in enforcement efforts. This objective also supports the RCRA corrective action and regional LUST legal enforcement program.

The Superfund program and its stakeholders have benefitted from enforcement reforms implemented in recent years. These reforms include undertaking early, expanded PRP searches and investigations to enable "enforcement first" to occur and develop sufficient information to make orphan share determinations; making orphan share offers at all eligible sites; expediting negotiations to facilitate early de minimis settlements; settling with parties with limited ability to pay; making more effective and widespread use of Alternative Dispute Resolution (ADR); issuing administrative orders to the maximum practicable number of PRPs at a given site; creating site-specific accounts; and, removing liability barriers to economic redevelopment through prospective purchaser agreements.

In FY 2002, the Agency will negotiate remedial design/ remedial action cleanup agreements at sites and will also achieve removal agreements at hazardous waste sites. Where negotiations fail, the Agency will take either unilateral enforcement actions to require PRP cleanup or use Trust Fund dollars to

remediate sites. When Trust Fund dollars are used to cleanup sites, the program will take cost recovery actions against PRPs to recover expenditures.

Institutional controls are a critical component of many response actions selected by EPA to ensure that property is used and maintained in an appropriate manner after construction of the selected cleanup is complete. The Superfund program will oversee the implementation and enforcement of institutional controls following the completion of construction. Furthermore, response work will be undertaken, in accordance with existing agreements or through additional negotiations, when found to be necessary through five year reviews.

EPA will continue its efforts in Federal facilities administrative activities related to CERCLA § 120 agreements. CERCLA § 120 requires that for all Federal facility sites on the NPL, an IAG be signed by all appropriate parties which provide enforceable schedules for the progression of the entire cleanup. For Federal facility NPL sites, the signing of an IAG and oversight of its implementation ensures a protective cleanup at a timely pace. EPA will monitor milestones in existing IAGs, resolve disputes, and oversee all remedial work being conducted by Federal facilities. EPA will work with affected agencies to resolve outstanding policy issues relating to the cleanup of Federal facilities. For FY 2002, EPA will make a final offer for an IAG that is consistent with Agency policy and guidance at 100% of Federal facility Superfund sites within 18 months after final listing on the NPL.

In FY 2002, the Superfund cost recovery program will recover monies expended from the Trust Fund from viable responsible parties. Where settlement negotiations and previous enforcement actions have failed to achieve PRP response, and Trust Fund dollars are used to cleanup sites, the program will take cost recovery actions against PRPs to recover expenditures. By pursuing cost recovery settlements, the program promotes the principle that polluters should pay cleanup costs at sites where they caused or contributed to the contamination and maximizes the leverage of the Trust Fund to address future threats posed by contaminated sites. Trust Fund expenditures will be recouped through administrative actions, CERCLA § 107 case referrals and through settlements reached with the use of alternative dispute resolution.

The enforcement program's involvement in case referrals and support include case development and preparation, referral and post-filing actions. The program will also provide case and cost documentation support for the docket of cases currently being worked on by DOJ. The enforcement program will meet cost recovery statute of limitation deadlines, resolve cases, and issue bills for oversight and make collections in a timely manner.

Other Federal Agencies

Other Federal agencies contribute to this objective by providing essential services in areas where EPA does not possess the needed Superfund specialized expertise. Contributors include the Department of Interior, the National Oceanic and Atmospheric Administration, the Federal Emergency Management Agency, the Occupational Safety and Health Administration, the United States Coast Guard. Some of the essential services performed by these Federal agencies include the following: 1) The Department of Interior provides response preparedness and management activities (assistance on incidents and sites and training on natural resource issues) that support the National Response System including the National Response Team, Regional Response Teams, OSCs, and RPMs; provides trustee assistance and damage assessment capability activities that increase the capability of Federal, State and Indian tribe trustees to assess damages for natural resources injured or lost as a result of hazardous substances releases; and provides scientific support to develop ways to include natural resource restoration in removal actions and 2) FEMA provides technical assistance to on-scene coordinators and supports the National Contingency Plan and the National Response System through preparedness exercises; develops and coordinates training programs for state and local governments through participation on the National Response Team and Regional Response Teams; provides financial assistance for hazardous materials training exercises; and maintains regional libraries for hazardous material training information.

Overview of Other Federal Agency Funding

Agency	FY 2001 Enacted	FY 2002 Pres. Bud
DOI	$997,800	$997,800
DOJ	$28,437.3	$28,150.0
FEMA	$1,097,600	$1,097,600
NOAA	$2,444,600	$2,444,600
OSHA	$648,600	$648,600
USCG	$5,487,900	$5,487,900
TOTAL	**$10,676,500**	**$10,676,500**

Brownfields

Brownfields are abandoned, idled, or under-used industrial and commercial properties where expansion or redevelopment is complicated by real or perceived contamination. Brownfields properties are not traditional Superfund sites as they are not generally highly contaminated and present lesser health

risks. However, economic changes over several decades have left numerous communities with these contaminated properties and abandoned sites. In fact, the General Accounting Office has estimated that over 450,000 brownfields properties exist. Concerns about environmental liability and cleanup, infrastructure declines, and changing development priorities have worsened the situation. The primary goal of the EPA Brownfields program is to provide State, Tribal and local governments with the tools and financial assistance to assess, clean up, and redevelop brownfields properties. The Agency's FY 2002 request includes an additional $5,000,000 investment in brownfields which provides $2,500,000 for assessment demonstration pilots and $2,500,000 directly to states and tribes to support the State voluntary cleanup programs. Also, the President's budget proposes to make the Brownfields tax incentive permanent.

In response to needs for the assessment and cleanup of brownfields properties, the Agency implements strategies to bring these properties back into use for the benefit of their communities. The brownfields economic redevelopment initiative is a comprehensive approach to empower states, communities, and other stakeholders interested in environmental cleanup and economic redevelopment to work together to prevent, assess, safely clean up, and sustainably reuse these properties.

The Agency provides funding for brownfields site assessment demonstration pilots of up to $200,000 each. Recently, EPA has made supplemental funding available to a small subset of these pilots, that have accomplished a high number of assessments, clean ups and redevelopments. These pilots provide EPA, states, local governments, and federally recognized Indian tribes with useful information and new strategies for promoting a unified approach to environmental site assessment and characterization, and redevelopment. EPA has awarded 363 two year assessment grants to communities to assist localities in assessing contamination at brownfields sites. These grants include supplemental, greenspace and Showcase assessment-related activities. Over 2,500 properties have had environmental assessments completed under the assessment pilot program since program inception. In 2002, the Agency will continue to fund brownfields pilots. This assistance is designed to enhance State, local and tribal governments' capacity to assess and cleanup properties under state and Federal environmental authorities, and facilitate the redevelopment and reuse of the brownfields properties. To date, brownfields pilots have leveraged over 11,000 cleanup, construction and redevelopment jobs.

Where appropriate, the Agency provides funding for targeted brownfields assessments in communities that are not successful in competing for an assessment pilot. Site assessments at non-pilot brownfields sites are performed either under existing cooperative agreements with states or through EPA contractors. This activity enjoys wide support from local communities. This funding provides preliminary assessments and site investigations using standard methodology established by the American Society for Testing Materials (ASTM).

To continue EPA's efforts to provide a pattern of interagency collaboration in addressing environmental and economic issues in brownfields communities, the Agency and its Federal partners designated 12 new showcase communities in 2001 for a total of 28 showcase communities. These

designated brownfields showcase communities are distributed across the country and vary by size, resources, and community type. The goals of the project are to: promote environmental protection and restoration, economic development, job creation, community revitalization, and public health protection through assessment, cleanup and sustainable reuse of brownfields; link Federal, State, local and non-governmental action supporting community efforts to restore and reuse brownfields; and develop national models demonstrating the positive results of public and private collaboration in addressing brownfields challenges.

The Agency will also award cooperative agreements to capitalize brownfields cleanup revolving loan fund pilots (BCRLF) of up to $1,000,000 each. All communities with brownfields properties are eligible to apply. EPA offers grants to governmental entities which may discount loans to nonprofit or other government entities. This funding enables eligible entities to develop cleanup strategies, make loans to prospective purchasers to clean up properties, and encourages communities to leverage other funds into their revolving loan fund pools. In addition, the Agency awards brownfields job training and development demonstration pilots at up to $200,000 each over two years to help residents of brownfields communities take advantage of new jobs created by the assessment and cleanup of brownfields.

Funding to support the expansion, enhancement and development of State voluntary cleanup programs (VCPs) will be a priority in the Agency's attempt to reuse and redevelop brownfields properties. EPA provides both monetary and technical/legal assistance to states and tribes developing and enhancing VCPs. VCPs address contaminated sites which do not require Federal action, but need cleanup before the sites are considered for reuse. EPA believes that building strong and effective State and Tribal programs, such as VCPs, will also complement efforts to address the cleanup of brownfields properties. To date, EPA has signed 16 memoranda of agreement that clarify the oversight of brownfields cleanups will be the responsibility of the states with programs which meet the six criteria established in the November 1996 voluntary cleanup guidance.

Over the past five years, states, territories, and tribes have received $85,000,000 for assessment demonstration and BCRLF pilots, voluntary cleanup programs and targeted brownfields assessments.

The Agency will facilitate the reuse of Brownfields properties through the application of transportation/land use/air quality models in cities around the country that show the air quality benefits of Brownfields redevelopment and infill. EPA will work with city mayors and states to make Brownfields redevelopment and infill a National Ambient Air Quality Standards attainment strategy under the State Air Quality Implementation Plans.

Base Realignment and Base Closure

Since 1993, EPA's Superfund Base Realignment and Base Closure (BRAC) program has worked with the Department of Defense (DOD) and the states' environmental programs to make property environmentally acceptable for transfer, while protecting human health and the environment[22] at realigning

or closing military installations. Between 1988 and 1995, 497 major military installations representing the Army, Navy, Air Force, and Defense Logistics Agency were slated for realignment or closure. Of these 497 BRAC installations, 205 require environmental restoration. One hundred and eight (108) of the installations requiring environmental restoration have been designated as Fast-Track installations.

The Fast-Track program strives to make parcels available for reuse as quickly as possible, by either transfer of uncontaminated or remediated parcels, or lease of contaminated parcels where cleanup is underway or "early transfer" of contaminated property is undergoing cleanup. A major success for the Fast-Track program has been the formation of the base cleanup teams (BCTs) at the Fast-Track designated installations. The teams, which include EPA, DOD, and State environmental experts, engineer commonsense approaches to cleanups by developing common goals and priorities. The Agency empowers the team members to make decisions to expedite the process of accelerating cleanup while integrating base reuse priorities. To further assist with Fast-Track cleanups, EPA engages in public participation by working with DOD to establish restoration advisory boards (RABs) at military installations. RABs foster teamwork by bringing members of the community together with military officials and government regulators to discuss cleanup issues.

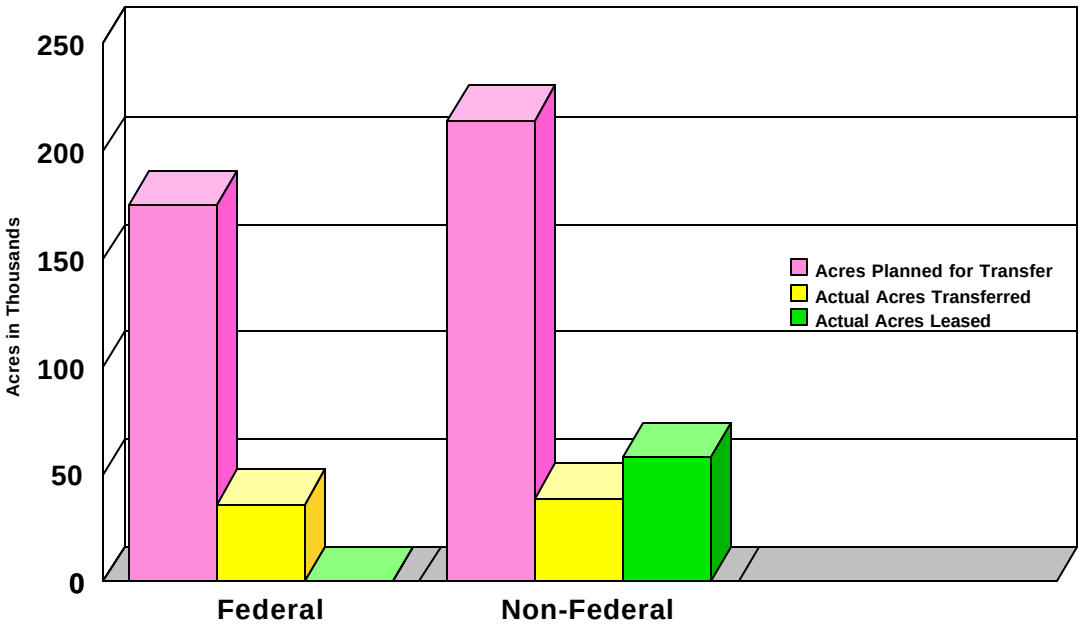
Through cleanup partnerships, DOD, EPA, and the states have saved the program an estimated 296 project years and more than $277 million in potential costs through 1999. The 205 BRAC installations undergoing environmental restoration have collectively transferred 403,593 acres of property from DOD to non-military entities. Approximately 96 percent of this property (389,741 acres) belongs to the 108 installations under the BRAC Fast-Track cleanup program. More than 34 percent of the BRAC Fast-Track property (133,372 acres) have been transferred or leased.

Status of DoD's Property Transfer
under the BRAC Fast-Track Cleanup Program
(End of FY 1999 Report)

Resource Conservation and Recovery

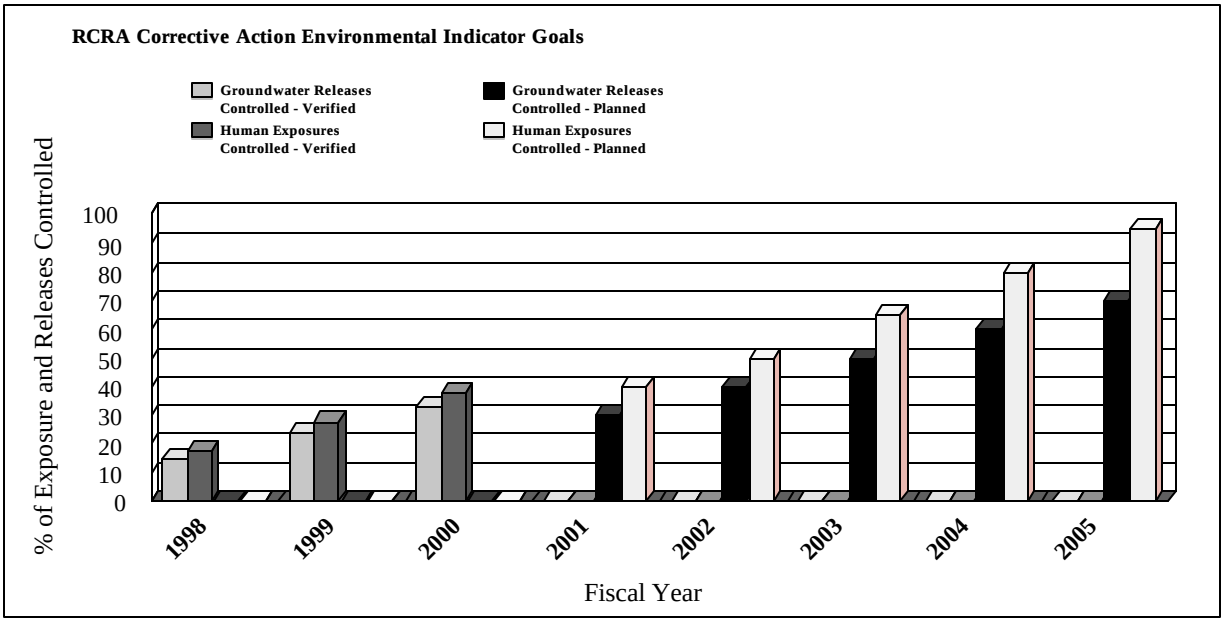
For decades, many industrial facilities in this country mismanaged their hazardous wastes. Some of the facilities – particularly those that have been abandoned or closed – are being addressed under the Superfund program. A significantly larger number, however, fall under the Resource Conservation and Recovery Act (RCRA) corrective action program that is administered by EPA and the authorized states. Currently, thirty-eight states and territories are authorized to implement the corrective action program. These include some of the most intractable and controversial cleanup projects in the country. Approximately 3,500 industrial facilities must undergo a cleanup under the RCRA program. Out of these facilities, the Agency has targeted over 1,700 facilities as high priority – where people or the environment is likely to be at significant current or potential risk. The Agency is pursuing a strategy for addressing the worst facilities first, as reflected in the Agency's annual performance goal. This focus on near- term actions which will mitigate actual or imminent human exposure problems and stop further spread of contaminants in the environment has resulted in 504 of the 1,700 target facilities achieving their environmental indicator goals.

Over the past several years, the Agency has emphasized streamlining the corrective action program and improving overall implementation. In 2002, those efforts will be further advanced by implementation of a second round of RCRA reforms, launched in 2001. The reforms were developed from issues, ideas and information presented at a series of meetings the Agency held with various stakeholders in 2000. Participants in these meetings included program implementors and stakeholders, including representatives from tribes, Federal and state agencies, regulated industry and environmental and community groups. Topics discussed included innovative and successful approaches to corrective action, current barriers and ways to improve communication.



The initiative is designed to encourage cleanups, reduce impediments to cleanup actions, enhance state and stakeholder involvement, and promote the reuse of RCRA facilities; its goal is to accelerate the pace of the program. To support the reforms, the regions will make strong and aggressive implementation efforts and encourage their states to do the same. During the first round of reforms, the regions began discussions with states and the regulated community to ensure they adopted the new approaches to the fullest extent possible at RCRA clean-up sites.

In 2002, the Agency and states will be implementing the 2001 Reforms, which will showcase innovative approaches through a new pilot program. Specifically, the reforms will focus on accelerating corrective actions, strengthening communities' connections to clean-ups, and capitalizing on redevelopment potential. These reforms include a new round of RCRA Brownfields projects. Currently four RCRA Brownfields projects are underway in four regions, and an additional 8 pilot project applications have been submitted to EPA through or by the regional offices.



Training will remain a high priority for the Corrective Action Program. This training, which builds on earlier training in 1999 and 2000, will focus on principles of the cleanup reform effort. The Agency is partnering with outside stakeholders to develop a practical program of training, which will be conducted in 2001 and 2002.

Research

This research supports the Agency's objective of reducing or controlling potential risks posed to human health and the environment through better waste management and restoration of abandoned waste sites. Research related to hazardous substances (Superfund), leaking underground storage tanks (LUST), and oil spills falls within this objective.

Hazardous Substance research focuses on improving scientific understanding of the potential human health and ecological risks that may be posed by contaminated groundwater, soils, and sediments including: 1) the presence of highly toxic site contaminants, such as heavy metals and volatile organic chemicals; 2) the potential for multiple routes of exposure; and 3) the large number of contaminated sites, many of which (e.g., sediments, mining) cover large areas, providing high exposure (particularly to ecosystems). Contamination of groundwater and sediments in the riparian zone (i.e., river and stream banks) is also of considerable concern due to their importance to humans and ecosystems. The extent and geological complexity of many of these sites present many uncertainties when determining risk, as well as in finding accurate, low-cost techniques for site characterization and remediation.

Groundwater and Soils

The Agency supports an integrated research program of exposure, assessment, and risk management to understand the processes that govern contaminant transport and fate and also remediation and monitoring technologies, especially their cost-effectiveness, yielding more efficient hazardous waste site cleanup.

In FY 2002, the *exposure* research program will include non-invasive geophysical techniques that provide methods of subsurface site characterization and contaminant evaluation, yielding a greater ability to make sound remediation decisions. Significant effort will be directed toward experiments at a unique field test facility for evaluating these geophysical technologies under dense non-aqueous phase liquids (DNAPL) controlled-spill conditions. The facility will also be used to evaluate other subsurface (e.g., groundwater) sampling methods and designs.

Current exposure research also focuses on the improvement of the collection of soils contaminated with volatile organic compounds (VOCs). The research program will examine VOC releases due to sample disturbance, compositing soils contaminated with VOCs, and the quality of common analytical methods for VOCs in soils. A major product in FY 2002 will be a prototype device for sampling VOCs from contaminated soils around Superfund sites. This device will greatly increase the accuracy of VOC measurements in soils by minimizing losses during sample collection and shipment. Another major product in FY 2002 will be laboratory representative subsampling guidance, based on environmental statistics research.

The exposure research program also develops advanced instrumentation for soils and groundwater characterization which focuses on methods that will provide high-quality data rapidly with simple and rugged protocols. Emphasis will be on technologies that can eventually be used to perform analysis in the field, specifically those that can determine pollutants that are intractable by conventional EPA methods, as well as those that improve risk assessments by providing specific information on the most hazardous forms of pollutants. Currently, pollutants of primary interest are polyaromatic hydrocarbons (PAHs), chlorinated organics, petroleum related compounds, and toxic metals.

The *risk assessment* research program focuses on both human health and ecological research. Human health research involves developing methodologies, models, and factors that can enable risk assessors to better develop more accurate quantitative estimates of the amount of a contaminant found in

the soil matrix that is toxicologically available to cause harm. Major areas of emphasis for FY 2002 will include: developing statistical distributions for exposure factors to facilitate probabilistic analysis; further refining and validating the biokinetic models for lead and other toxic metals; developing better models and methods for dermal exposure; and evaluating the bioavailability of soil-borne contaminants.

Ecological risk assessment research develops methodologies and factors that can enable ecological risk assessors to estimate the amount of soil-borne contamination that will be toxicologically available to harm ecological receptors. The major area of emphasis for FY 2002 will be developing ecological soil screening values for common soil contaminants. These screening values will enable the Agency to make prompt decisions about what levels of contamination are not harmful to human health and/or ecosystems.

The Agency's *risk management* research program will address priority remediation problems in groundwater and soils, helping to reduce human health and ecosystems exposure to hazardous materials in soils and groundwater by making remediation more efficient.

In the area of groundwater research, the Agency plans to complete and report on the first phase of small-scale field tests on the use of surfactants and cosolvents for DNAPL cleanup. DNAPLs are a major source of organic groundwater contamination for which there are few effective commercialized remediation options. Research will also continue on the use of thermal treatment for cleanup processes. In addition, research will be conducted on the remediation of dissolved inorganic plumes and related source areas, including their natural attenuation (NA). Other groundwater research will include developing methods to evaluate the long-term performance of permeable reactive barriers (PRBs) and groundwater containment systems.

In the area of soil remediation, research will continue on the cost-effectiveness of several bioremediation options for the treatment of PAHs, and on the effectiveness of natural attenuation toward this contaminant class. Research on the immobilization of metals in soils to reduce their mobility and bioavailability will shift from lead to other priority metal contaminants and decrease as field tests are completed. Studies of phyto-remediation options will continue, with field studies of selected options and other studies to understand the chemical, physical and biological processes involved.

Containment research will include work on caps, covers and vertical barriers for the vadose zone (i.e., the unsaturated zone), as well as fixed barriers and pumping methods for contaminated plumes. Research for barriers, as well as other containment systems, will address long-term maintenance and effectiveness. Studies of the design and application of geosynthetic clay liners will continue, with new field studies being initiated.

Contaminated Sediments

In FY 2002 the effects research program will investigate the effects of contaminated sediments on human health and the environment. Work will focus on the effects of bioaccumualtive chemicals, such as some metals, that will be used to update existing sediment guidelines, develop the scientific basis for wildlife

criteria, and determine how to bring these together to establish integrated risk-based criteria. Research includes the development of bioaccumulation factors, biota-sediment assessment factors, and stressor response models relating the effects of chemical stressors on target aquatic dependent organisms.

Contaminated sediments research will also study the cost and effectiveness of conventional remediation options, such as dredging, and disposal facilities. In FY 2002, this work will expand with more field tests being conducted.

Superfund Innovative Technology Evaluation (SITE), Hazardous Substance Research Centers (HSRCs), Oil Spills, and Leaking Underground Storage Tanks (LUST)

Other important efforts in contaminated sites research to reduce or control risks to human health include the Superfund Innovative Technology Evaluation (SITE) program and the Hazardous Substance Research Centers (HSRCs) program. The Agency also supports efforts to reduce or control risks from oil spills and Leaking Underground Storage Tanks (LUST).

The SITE program fosters the development and use of lower cost characterization technologies and risk management remediation technologies for sediments, soils, and groundwater. The goal of this program is to identify, demonstrate, assess, and distribute information about innovative and alternative environmental technologies to developers, remediation site managers, and regulators. This, in turn, would make characterization and remediation processes more efficient. In the characterization area, the focus will be on initiating studies of selected technologies, which may include ecological samplers and biosensors, while completing efforts on demonstration reports on total petroleum hydrocarbons (TPH) in soil and sediment sampling technologies. Under the remediation area, the program will be continuing evaluations of technologies dealing with priority remediation problems, including sediments and DNAPLs, where innovative technologies are being commercialized. The annual SITE Report to Congress, which provides program/project status and cost savings information, will also be produced.

In FY 2002, the Agency will also continue to support HSRC's. Five multi-university centers will focus on different aspects of hazardous substance management. They bring together researchers from a variety of disciplines to collaborate on integrated research projects.

In FY 2002, oil spills research will involve the development of an oil spill model applicable to near-coastal water and options to clean up fuel and chemical spills to navigable waterways. Efforts will result in a report on the oil spill and dispersant model, including tested software, a database of required input parameters, and an Internet-based user's guide. Research will also be conducted on cleanup options for nonfloating oils, along with studies on their persistence and toxicity changes during biodegradation.

Leaking Underground Storage Tanks (LUST) Corrective Action research looks at cleanup processes for fuels and fuel oxygenates. This work results in a better understanding of naturally occurring subsurface processes that degrade fuel components; reliable indicators to measure natural attenuation (NA) rate and extent; and models and resource documents to predict the likelihood of site-specific NA

effectiveness. Research also includes development and evaluation of more cost-effective remediation techniques for contaminants in soils and groundwater. In FY 2002, research will continue to focus primarily on the NA and remediation of groundwater contaminated with the fuel oxygenate methyl tertiary butyl ether (MTBE).

FY 2002 Change from FY 2001 Enacted

LUST:

- (-$105,200) Decrease to provide additional funds to support increased costs associated with the workforce based on the Agency's repricing of payroll.

- (-1.2 FTE) Reduction of work years from the control of risks from Leaking Underground Storage Tanks (LUSTs).

EPM:

- (+$144,400) Increase to provide additional funds to support increased costs associated with the workforce based on the Agency's repricing of payroll.

- (-$347,700) Decrease to RCRA programmatic funds to support agency's cost of living allowance requirements.

- (-$325,000) Decrease to information resource management activities as a result of streamlining ongoing processes within RCRA.

- (+$929,500) Increase for costs associated with agency's cost of living adjustment for the workforce.

- (-3.5 FTE) Reduction of work years to corrective action activities under the Resource Conservation and Recovery Act (RCRA)

STAG:

- No change.

Superfund:

- (-$3,621,000) Decrease to Superfund programmatic funds to support Agency increase in workforce costs.

- (+$4,362,200) Redirection from Goals 8 and 10 to Goal 5 to better align laboratory resources that support the Superfund program.

- (-$5,000,000) Decrease in Superfund enforcement resources to fund additional activities in the brownfields program. This decrease does not affect the overall Superfund level of funding in this objective.

- (-19.8 FTE) This reflects a reduction in the following Superfund enforcement activities: work with potentially responsible parties; cost recovery efforts; and, developing interagency agreements with other Federal agencies.

- (-43.7 FTE) Redirection of resources to the Agency's new enforcement grant program. These resources will now be used to support the Agency's efforts to assist states and tribes in carrying out environmental enforcement responsibilities.

- (-1.6 FTE) This reflects a reduction in the oil prevention, pollution and preparedness activities.

- (-16.0 FTE) This reflects a reduction in the remedial program which performs work at NPL sites.

C (-1.6 FTE) This reflects a reduction in the site assessment portion of the Superfund program.

<u>BRAC</u>

C (-14.1 FTE) This reflects a reduced level of support requested by Department of Defense (DOD) at closing military bases.

<u>Brownfields</u>:

C (+$5,000,000) Additional investment in brownfields reflecting a redirection from the Superfund Enforcement program. Of the total investment, $2.5M will be used for assessment demonstration pilots and $2.5M will go directly to states and tribes to support State voluntary cleanup programs.

C (-$6,000,000) Redirection from the Brownfields Cleanup Revolving Loan Fund program to support a shift in emphasis to assessment demonstration pilots, state voluntary cleanup programs, and targeted brownfields assessments.

C (+$4,000,000) Redirection to assessment demonstration pilots, targeted brownfields assessments, and oversight and technical support due to growth in number of applications received versus funding amount available.

C (+$2,000,000) Increase to state voluntary cleanup programs to provide support to the states in their streamlined cleanup approaches.

Research

Superfund

- (+$1,796,200) This increase reflects an increase in workforce costs.

- (+$1,398,000, +10 FTE) This shift represents the Agency's continuing need for research on contaminated sediments, however focus for that need has shifted from OW to OSWER. This work will focus on the effects of bioaccumulative chemicals that will be used to update existing sediment guidelines, develop the scientific basis for wildlife criteria, and how to bring these together to create an integrated risk based criteria.

- (+$240,600) This reflects an increased effort to Superfund technical support under risk management. It provides site-specific assistance on engineering and treatment processes as well as assistance on groundwater and subsurface contamination problems.

- (-$1,398,000, -10 FTE) This reduction reflects a planned shift in emphasis from risk management of soil and groundwater to watershed restoration for the development of TMDL's and to work on suspended solids and sediments, or clean sediments.

- (-$1,070,800, -10 FTE) This decrease in workyears reflects a shift of 8 FTE from Superfund to the Science and Technology Appropriation in Goal 2, Objective 2 for watershed restoration. The goal of this research is to develop decision support tools to assist watershed managers in analyzing problems and identifying cost effective solutions. This also reflects a shift of 2 FTE to Goal 5, Objective 2 to improve waste management options which will help to develop more cost effective waste treatment and containment processes. There will be no new projects associated with soil remediation as well as the phase out of lower priority projects to allow for the shift.

S&T

- (-$7,225,400) The FY 2002 request is $7,225,400 below the FY 2001 Enacted budget level due to the Congressional earmarks received during the appropriations process which are not included in the FY 2002 President's Request.

- (-$1,579,400, -10.6 FTE) The reduction to workyears represents a redirection from Goal 5, Objective 1, soil and sediment remediation, to Goal 5, Objective 2, waste management research, specifically to risk management technical support and subsurface processes research. While this represents a shift out of soil and sediments remediation research under the Science and Technology Appropriation, substantial effort in this area is supported under the hazardous substance research program.

Annual Performance Goals and Performance Measures

Leaking Underground Storage Tank Cleanups

In 2002 EPA and its partners will complete 23,000 Leaking Underground Storage Tank (LUST) cleanups for a cumulative total of approximately 294,000 cleanups since 1987.

In 2001 Complete 21,000 Leaking Underground Storage Tank (LUST) Cleanups for a cumulative total of approximately 271,000 cleanups since 1987.

In 2000 EPA met its goal by completing 20,834 LUST cleanups, for a cumulative total of 249,760 since 1987.

In 1999 EPA completed 25,678 LUST cleanups.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
LUST cleanups completed.	25,678	20,834	21,000	23,000	cleanups

Baseline: EPA completed a total of 249,760 LUST cleanups from 1987 through 2000.

Tribal Cleanup Assistance

In 2002 EPA will continue to emphasize increasing the number of Indian tribes participating in the Superfund program, as expressed through the number of tribes supported by Superfund cooperative agreements with tribes and intertribal consortia.

In 2002 Complete 40 Leaking Underground Storage Tank (LUST) Cleanups in Indian Country for a cumulative total of 607 cleanups since 1987.

In 2001 EPA will continue to emphasize increasing the number of Indian tribes participating in the Superfund program, as expressed through the number of tribes supported by Superfund cooperative agreements with tribes and intertribal consortia.

In 2001 Complete 65 Leaking Underground Storage Tank (LUST) Cleanups in Indian Country for a cumulative total of 567 cleanups since 1987.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
LUST cleanups in Indian Country.			65	40	cleanups
Site assessments (PA/SI) conducted in Indian country.			no target	no target	assessments
The number of tribes supported by cooperative agreements with tribes/intertribal consortia.			no target	no target	agreements
Funding provided for building tribal capacity.			no target	no target	funding
Percentage of Superfund sites impacting Indian country where a tribe is involved as either the lead or support agency.			no target	no target	involvement

Baseline: EPA completed a total of 502 LUST cleanups in Indian Country from 1987 through 2000. The baseline for Superfund activities is currently under development.

Superfund Site Assessments

In 2002 EPA and its partners will make final Superfund site assessment decisions on 475 additional sites for a cumulative total of 37,101.

In 2001 EPA and its partners will make final Superfund site assessment decisions on 475 additional sites for a cumulative total of 36,626.

In 2000 EPA met its goal, accomplishing 468 final site assessments, for a cumulative total of 36,151 over the life of the program.

In 1999 EPA exceeded the target by completing 744 final site assessment decision.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Final site assessment decisions.	744	468	475	475	assessments

Baseline: EPA completed a total of 36,151 final site assessments from 1982 through 2000.

Superfund Removal Response Actions

In 2002 Conduct 285 Superfund removal response actions for a cumulative total of 6,861 removal response actions since 1982.

In 2001 Conduct 300 Superfund removal response actions for a cumulative total of 6,586 removal response actions since 1982.

In 2000 EPA exceeded its target by conducting 357 removal response actions, for a cumulative total of 6,286 over the life of the program.

In 1999 EPA exceeded the target by conducting 356 removal response actions.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Removal response actions.	356	375	300	285	removals

Baseline: EPA completed a total of 6,286 removal response actions from 1982 through 2000.

Superfund Cleanups

In 2002 EPA and its partners will complete 65 Superfund cleanups (construction completions) to achieve the overall goal of 897 construction completions by the end of 2002.

In 2001 EPA and its partners will complete 75 Superfund cleanups (construction completions) to achieve the overall goal of 897 construction completions by the end of 2002.

In 2000 EPA met its target, attaining a total of 87 construction completions, for a cumulative total of 757 construction completions over the life of the program.

In 1999 EPA met the target of 85 construction completions.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request

Construction completions.	85	87	75	65	completions

Baseline: EPA completed a total of 757 construction completions from 1982 through 2000.

Superfund Intermediate Cleanup Indicators

In 2002 EPA will increase the number of Superfund hazardous waste sites with human exposures and migration of contaminated groundwater under control.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Superfund hazardous waste sites with human exposures controlled.				no target	sites
Superfund hazardous waste sites with groundwater migration controlled.				no target	sites

Baseline: In FY 2001, EPA established a preliminary baseline of 1450 final and deleted NPL sites to monitor for human exposures under control. 1126 (78%) of these 1450 sites have human exposures under control. In FY 2001, EPA established a preliminary baseline of 1204 final and deleted NPL sites to monitor for migration of contaminated groundwater under control. 745 (61%) of these 1204 sites have contaminated groundwater migration under control.

Superfund Cost Recovery

In 2002 Ensure trust fund stewardship by getting PRPs to initiate or fund the work and recover costs from PRPs when EPA expends trust fund monies. Address cost recovery at all NPL and non-NPL sites with a statute of limitations (SOL) on total past costs equal to or greater than $200,000.

In 2001 Ensure trust fund stewardship by getting PRPs to initiate or fund the work and recover costs from PRPs when EPA expends trust fund monies. Address cost recovery at all Superfund sites with a statute of limitations (SOL) on total past costs equal to or greater than $200,000.

In 2000 Addressed cost recovery at 98.5% of NPL and non-NPL sites with a statute of limitations on total past costs equal to or greater than $200,000.

In 1999 We met our goal to ensure trust fund stewardship by recovering costs from PRPs when EPA expends trust fund monies. EPA addressed cost recovery at 99% of all National Priority List (NPL) and non-NPL sites with a statute of limitations on total past costs equal to or greater than $200,000.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Address Cost Recovery at all NPL & Non-NPL sites w/tot. past costs = or > $200K	99	98.5			Percent
Refer to DOJ, settle, or write off 100% of Statute of Limitations (SOLs) cases for SF sites with total unaddressed past costs equal to or greater than $200,000 and report					

value of costs recovered.			100	100	Percent

Baseline: In FY 98 the Agency will have addressed 100% of Cost Recovery at all NPL & non-NPL sites with total past costs equal or greater than $200,000.

Superfund Potentially Responsible Party Participant

In 2002 Maximize all aspects of PRP participation which includes maintaining PRP work at 70% of the new remedial construction starts at non-Federal Facility Superfund, and emphasize fairness in the settlement process.

In 2001 Maximize all aspects of Potentially Responsible Party (PRP) participation including having PRPs initiate work at 70% of the new construction starts at non-Federal Facility Superfund sites, and emphasize fairness in the settlement process.

In 2000 Maximize all aspects of PRP participation by maintaining PRP work at 68% of the new remedial construction starts at non-Federal Facility Superfund sites, while emphasizing fairness in the settlement process.

In 1999 Achieved >70% responsible party participation in new remedial actions at NPL sites. Goal met with the exception of completing 5 Sect 106 Civil Actions & 2 Remedial Admin Orders primarily due to a decline in the no. of sites available for Remedial Design/Remedial Action negotiation completions.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Section 106 Civil Actions	33				Agreements
Orphan Share Offers at all eligible work settlement negotiations.	100%	100%			Sites
De Minimis Settlements	38	18			Settlements
Remedial Administrative Orders	17				Orders
Administrative and judicial actions		100			Actions
Ensure fairness by making Orphan Share Offers at 100% of all eligible settlement negotiations for response work.			100	100	Percent
Provide finality for small contributors by entering into De Minimis settlements and report the number of settlers.			18	18	Settlements
PRPs conduct 70% of the work at new construction starts			70	70	Percent

Baseline: In FY 98 approximately 70% of new remedial work at NPL sites (excluding Federal facilities) was initiated by private parties.

Superfund Prospective Purchaser Agreement

In 2002 Continue to make formerly contaminated parcels of land available for residential, commercial, and industrial reuse by addressing liability concerns through the issuance of comfort letters and Prospective Purchaser Agreements (PPAs).

In 2001 Continue to make formerly contaminated parcels of land available for residential, commercial, and industrial reuse by addressing liability concerns through the issuance of comfort letters and Prospective Purchaser Agreements (PPAs).

In 2000 The Prospective Purchaser Agreement (PPA) assessment annual performance goal was not met in FY 2000 because of the complexity of PPAs where determinations needed to be addressed prior to forwarding the draft to the prospective purchasers.

In 1999 We met our goal of continuing to make formerly contaminated parcels of land available for residential, commercial, and industrial reuse by addressing 100% of liability concerns through the issuance of comfort letters and prospective purchaser agreements.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Evaluate liability concerns - Prospective Purchaser Agreement requests assessed	100	85			Percent
Evaluate liability concerns- 100% of Prospective Purchaser Agreement requests addressed up to a maximum of 40 requests.			100	100	Percent

Baseline: In FY 98 EPA signed 24 PPAs. A total of 70 PPA agreements have been achieved since the guidance was issued five years ago.

Superfund Federal Facilities Compliance

In 2002 Within 18 months after final listing on the NPL, EPA will make a final offer for an interagency agreement (IAG) that is consistent with Agency policy and guidance at 100% of Federal facility Superfund sites.

In 2001 Within 18 months after final listing on the NPL, EPA will make a final offer for an interagency agreement (IAG) that is consistent with Agency policy and guidance at 100% of Federal facility Superfund sites.

In 2000 Negotiations were completed with IAGs signed at two out of the six targeted Federal facility NPL sites.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Federal Facilities CERCLA Negotiations		1			Negotiations
Federal Facilities Current NPL IAGs		2			NPL IAGs
Percentage of Federal facility NPL sites for					

which final offers have been made that meet Agency policy and guidance.	100	100	Percent
Percentage of Federal facilities with final offers made within 18 months.	100	100	Percent

Baseline: EPA will track the federal facilities listed on the NPL after October 1, 1999, and for which the 18-month limit expires during the fiscal year. As of the beginning of FY2001, one site meets this criteria.

RCRA Corrective Action

In 2002 172 (for a cumulative total of 986 or 57%) of high priority RCRA facilities will have human exposures controlled and 172 (for a cumulative total of 909 or 53%) of high priority RCRA facilities will have groundwater releases controlled.

In 2001 172 (for a cumulative total of 814 or 47%) of high priority RCRA facilities will have human exposures controlled and 172 (for a cumulative total of 737 or 43%) of high priority RCRA facilities will have groundwater releases controlled.

In 2000 EPA met its RCRA corrective action goal with an additional 191 of the high priority RCRA facilities having human exposures controlled, and an additional 168 high priority RCRA facilities having groundwater releases controlled.

In 1999 162 (for a cumulative total of 477 or 28%) of high priority RCRA facilities have human exposures controlled and 188 (for a cumulative total of 440 or 26%) have groundwater releases controlled.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
High priority RCRA facilities with human exposures to toxins controlled.	162	191	172	172	facilities
High priority RCRA facilities with toxic releases to groundwater controlled.	188	168	172	172	facilities

Baseline: EPA established a baseline of over 1,700 high priority corrective action facilities in January 1999.

Brownfields Site Assessment Grants

In 2002 EPA will provide additional site assessment funding to 38 new communities, and to 38 existing communities, resulting in a cumulative total of 2,750 properties assessed, the generation of 14,000 jobs, and the leveraging of $3.4 billion in cleanup and redevelopment funds since 1995.

In 2001 EPA will provide additional site assessment funding to 50 communities, resulting in a cumulative total of 2,500 Properties assessed, the generation of 12,000 jobs, and the leveraging of $3.1 billion in cleanup and redevelopment funds since 1995.

In 2000 Although final data is not expected until April 2001, third quarter data shows that the goal was exceeded. Third quarter results show cumulative totals of 2,024 site assessments, generation of 7,446 jobs and leveraging of $2.8 billion in cleanup and redevelopment funds.

In 1999 EPA exceeded its goal and reached 307 communities by the end of FY 1999.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Cumulative leveraging of cleanup and redevelopment funds.		not available	$3.1 B	$3.4 B	funds leveraged
Cumulative jobs generated.		not available	12,000	14,000	jobs generated
Cumulative site assessments.		not available	2,500	2,750	assessments
Cooperative agreements to support Brownfields assessment pilots.	80				agreements

Baseline: By the third quarter of FY 2000, EPA assessed 2,024 sites, generated 7,446 jobs, and leveraged $2.8 billion in cleanup and redevelopment funds.

Brownfields Community Support

In 2002 EPA will provide funding for 29 communities to capitalize revolving loan funds, provide funding for 10 job training pilots, and support 28 existing Showcase Communities, and enhance the Brownfields Federal Partnership.

In 2001 EPA will provide funding for 30 communities to capitalize revolving loan funds, provide funding for 10 job training pilots, support 16 existing showcase communities and provide funding for 12 additional showcase communities, and enhance the Brownfields Federal Partnership.

In 2000 EPA met its goal, benefitting a total of 61 communities through 37 agreements to capitalize revolving loan funds. Additionally, EPA was successful in supporting 16 showcase communities and 16 job training pilots.

In 1999 EPA met its target by supporting 16 existing showcase communities, and provided funding for 68 communities to capitalize brownfields cleanup revolving loan funds resulting in the award of 45 cooperative agreements.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Showcase communities.	16	16	28	28	communities
Communities served by cooperative agreements to capitalize revolving loan funds.	45	37	30	29	agreements
Job training pilots.		16	10	10	pilots

Baseline: By the end of 2000, EPA signed 104 agreements for capitalization of revolving loan funds, awarded 37 job training pilots, and provided continued support to 16 showcase communities.

Counter Terrorism

In 2002 Provide anti-terrorism training to 5 communities.

In 2001 Provide anti-terrorism training to 20 communities.

In 2000 EPA exceeded its goal by providing anti-terrorism training to 27 communities.

In 1999 Anti-terrorism training has been completed for 31 communities.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Number of communities receiving anti-terrorism training	31	27	20	5	communities

Baseline: 135 states, communities and territories are considered most vulnerable to acts of terrorism.

Research

Scientifically Defensible Decisions for Site Clean

In 2002 Provide at least 6 innovative approaches that reduce human health and ecosystem exposures from DNAPLs and MTBE in soils and groundwater, and from oil and persistent organics in aquatic systems.

In 2002 Provide at least 2 new soil sampling methods, soil contaminant screening levels for at least 20 chemicals that pose ecological risks, and generate specific statistical distributions for factors used in human health exposure assessments.

In 2001 Provide technical information to support scientifically defensible and cost-effective decisions for cleanup of complex sites, hard-to -treat wastes, mining, oil spills near shorelines, and Brownfields to reduce risk to human health and the environment.

In 2000 The MTBE case studies summary report was delayed to include more than the original four sites. The SITE report was sent to OMB in FY 2000, but the time required for approval delayed its arrival in Congress. The dermal exposure route report was delayed until 12/00 to allow for completing peer review.

In 1999 Produced: 1) manual of practice for the Horizontal Lasagna Process; 2) research data from bench-scale studies of leachate application to liner materials; and 3) final cover guidance revision on an EPA report entitled, "Alternative Cover Assessment Project Phase I Report."

In 1999 Produced the annual Superfund Innovative Technology and Evaluation (SITE) Program report, and completed six (6) innovative technology reports.

In 1999 Completed: 1) Statistical Distribution for Selected Exposure Factors; 2) report and software on modeling of bioavailability of cadmium at hazardous waste sites; 3) issue paper on

pesticide degradation in hazardous waste sites; 4) report on software and database for pilot project to enhance MIXTOX database.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Environmental Research Brief on permeable reactive barrier of ground water contaminated with chromium and chlorinated solvents	1				report
Using data from the Exposure Factors Handbook, develop peer-reviewed statistical distributions for selected exposure factors.	30-Sep-1999				
Technical Resource Document for Monitored Natural Attenuation in Sediments			1		document
Summary Report of Case Studies of Natural Attenuation of MTBE, a fuel additive, at Geographically Diverse Locations		0			report
Progress report on Field Demonstration of Chemically-Enhanced Subsurface Dense, Non-Aqueous Phase Liquid Extraction Technologies			1		report
Superfund Innovative Technology Evaluation (SITE) Program Report to Congress.		18-Jan-2001			report
A report summarizing the key research findings methods, models, and factors relating to evaluating the risks from the dermal route of exposure.		31-Dec-2000			report
Review the 20 most common Superfund soil contaminants and develop eco-toxicity soil screening levels for wildlife and soil biota for chemicals where there is sufficient data.		30-Sep-2000			values
Delivery of the Annual SITE Program Report to Congress	30-Nov-1999				
Publish a technical Resource Document on the bioremediation of oil spills on marine shorelines. Provide oil spill response teams with a tool to assess appropriate applications of bioremediation.			1		document
Deliver the Annual SITE Program Report to Congress.			1		report
Annual SITE Program report to Congress					

provides information on the program progress, accomplishments, current and completed project status, cost savings and future direction.	1	report
Report on children's soil ingestion rates derived from environmental and biological measurements of arsenic.	1	report
Report on applications of lead biokinetic models to evaluate human health risks.	1	report
Report on ecotoxicity soil screening levels for mammals, birds, soil plants, and soil biota for use in ecological risk assessments at Superfund sites.	1	tech report

Baseline: In 2002, EPA research results will improve the Superfund site characterization and risk assessment processes by developing improved soil sampling techniques to make site characterization quicker, cheaper and more accurate. Soil contaminant screening levels are being developed to reduce the need for estimates based solely on knowledge about classes of contaminants, instead of the specific contaminants at a site. Statistical distributions are being developed for key input parameters to exposure models, to describe to decision makers a range over which site-specific exposure conditions might vary.

Without adequate remediation options that have been shown to work effectively at full scale, Federal, state and industry decisions makers do not have well-documented remediation options to consider when cleaning up complex sites. In addition, communities are concerned that a full range of options have not been considered. In 2002, EPA will do research and field testing to develop and assess the applicability of innovative remediation processes for DNAPLs and MTBE, and will study improved approaches to cleaning up oil spills in aquatic environments and their associated shorelines. Reports from this research will provide decision makers with critical information needed to select and implement remediation options.

Verification and Validation of Performance Measures

Performance Measure: LUST cleanups completed

Performance Database: The Office of Underground Storage Tanks (OUST) does not maintain a national database.

Data Source: Designated State agencies submit semi-annual progress reports to the EPA regional offices.

QA/QC Procedures: EPA regional offices verify and then forward the data to the OUST Headquarters. OUST Headquarters staff examine the data and resolve any discrepancies with the regional offices. The data are displayed on a region by region basis, which allows regional staff to verify their data.

Data Quality Review: None.

Data Limitations: Relies on accuracy and completeness of state records.

New/Improved Data or Systems: None.

Performance Measure: [Superfund] Construction completions

Performance Database: CERCLIS is the official database used by the Agency to track, store, and report Superfund site information.

Data Source: Data is entered on a rolling basis by EPA.

QA/QC Procedures: To assure data accuracy and control, the following administrative controls are in place: 1) Superfund/Oil Implementation Manual (SPIM) – This is the program management manual which details what data must be reported; 2) Report Specifications – Report specifications are published for each report detailing how reported data are calculated; 3) Coding Guide – It contains technical instructions to such data users as regional Information Management Coordinators (IMCs), program personnel, report owners and data input personnel; 4) Quality Assurance (AQ) Unit Testing – Unit testing is an extensive QA check against current specifications; 5) QA Third Party Testing – Third party testing is an extensive test made by an independent QA tester to assure that the report produces data in conformance with the report specifications; 6) Regional CERCLIS Data Entry Internal Control Plan -- The data entry internal control plan includes: a) regional policies and procedures for entering data into CERCLIS; b) a review process to ensure that all Superfund accomplishments are supported by source documentation; c) delegation of authorities for approval of data input into CERCLIS; and, d) procedures to ensure that reported accomplishments meet accomplishment definitions; and 7) a historical lockout feature has been added to CERCLIS so that changes in past fiscal year data can only be changed by approved and designated personnel and are logged to a change-log report.

Data Quality Review: Two audits, one by the Office Inspector General (OIG) and the other by Government Accounting Office (GAO), were done to assess the validity of the data in CERCLIS. The OIG audit report "Superfund Construction Completion reporting", No. E1SGF7-05-0102- 8100030, was performed to verify the accuracy of the information that the Agency was providing to Congress and the public.

Data Limitations: The OIG report concluded that the Agency "has good management controls to ensure accuracy of the information that is reported," and "Congress and the public can rely upon the information EPA provides regarding construction completions." The GAO's report, "Superfund Information on the Status of Sites (GAO/RECD-98-241)," estimates that the cleanup status of National Priority List sites reported by CERCLIS is accurate for 95% of the sites.

New/ImprovedData or Systems: In 2002, the Agency will continue its efforts begun in 1999 to improve the Superfund program's technical information by incorporating more site remedy selection, risk, removal response,

and community involvement information in CERCLIS. Also, it will continue its efforts to share information among the Federal, state and tribal programs. The additional information will further enhance the Agency's efforts to efficiently identify, evaluate and remediate Superfund hazardous waste sites. Also in 2002, the Agency will establish data quality objectives for program planning purposes.

Performance Measure: High priority RCRA facilities with human exposures to toxins controlled; High priority RCRA facilities with toxic releases to groundwater controlled.

Human exposures controlled and toxic releases to groundwater controlled are used to summarize and report on the site-wide environmental conditions at the RCRA Corrective Action Program's highest priority sites. The environmental indicators are used to track the RCRA program's progress on getting highest priority contaminated sites under control. Known and suspected site (-wide) conditions are evaluated using a series of simple questions and flow-chart logic to arrive at a reasonable defensible determination. These questions were issued as Interim Final Guidance on February 5, 1999. Lead regulators for the site (Authorized State or EPA) make the environmental indicator determination, However, facilities or their consultants may assist EPA in the evaluation by providing information on the current environmental conditions.

Performance Database: The Resource Conservation Recovery Act Information System (RCRAInfo) is the national database which supports EPA's RCRA program. RCRAInfo contains information on entities (generically referred to as "handlers") engaged in hazardous waste (HW) generation and management activities regulated under the portion of RCRA that provides for regulation of hazardous waste. RCRAInfo has several different modules, including a Corrective Action Module which tracks the status of facilities that require, or may require, corrective actions. Progress for these measures are recorded in Corrective Action Module. A "yes" or "no" entry is made in the database with respect to meeting corrective action indicators. Supporting documentation and reference materials are maintained in regional and state files.

Data Source: EPA regions and authorized states enter data on a rolling basis.

QA/QC Procedures:. States and Regions, who create the data, manage data quality control related to timeliness and accuracy (i.e. the environmental conditions and determinations are correctly reflected by the data). Within RCRAInfo the application software enforces structural controls which ensure that high-priority national components of the data are properly entered. RCRAInfo documentation, which is available to all users on-line, provides guidance to facilitate the creation and interpretation of data. Training on use of RCRAInfo is provided on a regular basis, usually annually, depending on the nature of systems changes and user needs.

Data Quality Review: GAO-1995 Report of EPA's Hazardous Waste Information System reviewed whether national RCRA information systems support meeting the primary objective of helping EPA and states manage the HW program. Recommendations coincide with ongoing internal efforts (WIN/Informed) to

improve the definitions of data collected, ensure data collected provides critical information and minimize burden on states

Data Limitations: None identified.

New/Improved Data or Systems: EPA has successfully implemented new tools for management of environmental information to support federal and state programs, replacing the old data systems (the Resource Conservation and Recovery Information System and the Biennial Reporting System) with RCRAInfo The RCRAInfo system allows for tracking of information on the regulated universe of RCRA hazardous waste handlers, and characterization of facility status, regulated activities, and compliance histories. The system also captures detailed data on the generation of hazardous waste from large quantity generators and on waste management practices from treatment, storage, and disposal facilities. RCRAInfo is web accessible, providing a convenient user interface for Federal, state and local managers, encouraging development of in-house expertise for controlled cost, and sports the ability to use commercial off-the-shelf software to report directly from database tables.

The Agency has spent considerable time in establishing the baseline for measuring progress on this measure. During 1999 the Agency finalized its baseline and national guidance for evaluating and documenting environmental indicators. The baseline is composed of a snapshot of 1,714 RCRA treatment, storage or disposal facilities ranked "high priority" under the National Corrective Action Priority System in the early 1990s, facilities with corrective action underway, and facilities nominated for inclusion by a region or state program (up to 15% of a region's baseline).

Performance Measure: [Brownfields] Cumulative site assessments; [Brownfields] Cumulative jobs generated; [Brownfields] Cumulative leveraging of cleanup and redevelopment funds.

Performance Database: The Brownfields Management System (BMS) is used to evaluate environmental, and economically-related results, such as acres assessed, acres cleaned up, and jobs generated. BMS uses data gathered from Brownfields pilots' quarterly reports and from the Regions.
The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) records Regional accomplishments on Brownfields assessments in the Brownfields module. This module tracks Targeted Brownfields Assessments (TBAs) on a property-specific basis. This database module contains information such as: the property's operational status (such as "Active" or "Inactive"), prior use (such as "Disposal," "Production Facility," or "Midnight Dump"), the actual start and complete dates for the TBA, the phase of the TBA, the outcome or result of a TBA.

Data Source: Data is entered by EPA headquarters and regional staff on a rolling basis. Data is derived from grant recipient reports on Pilot and targeted brownfields assessment projects.

QA/QC Procedures: Verification relies on reviews by Regional staff responsible for pilot cooperative agreements or Brownfields cooperative agreements and contracts.

Data Quality Review: Several data quality reviews have been conducted by the program and external organizations. The most recent was by GAO, "Brownfields: Information on the Programs of EPA and Selected States" (GAO-01-52. December 15, 2000). GAO recommended that EPA continue to review data reported by recipients before EPA's new guidelines for results were put in place and make any corrections needed to ensure that the data are consistent with the current guidelines. They also recommended that EPA regions monitor and work to improve recipients' reporting of data on key results measures.

Data Limitations: Since the data is derived from grant recipient quarterly reports, there are significant data limitations. The reporting of results is subject to the Paperwork Reduction Act and attendant OMB regulations governing information collection requests (ICR's), as well as the Agency's assistance regulations. The information collection requirements associated with these regulations have been approved by OMB (OMB Control Number 2030-0040). EPA requires under 40 CFR 35.6650 that grant recipients submit quarterly progress reports on activities which are delineated in the Scope of Work for the grant. The Agency is limited to obtaining information from assessment pilot recipients on specific accomplishments attained with grant funds, such as properties assessed (40 CFR 35.6650(b)(1)). In addition, EPA cannot require private sector entities, who do not receive EPA financial assistance, to provide information related to such accomplishment measures as redevelopment dollars invested or numbers of jobs created.

New/Improved Data or Systems: In September of 1999 EPA Headquarters issued guidance to the Regions to standardize quarterly reporting of accomplishment measures for newly awarded and amended assessment grants. This guidance was developed to ensure that the standardized information collected fell within the scope of regulations and the applicable OMB control number for quarterly reporting by assessment pilot recipients. EPA is also working with recipients to encourage the use of this standardized reporting through workshops and training. To improve recipients' reporting of data on key results measures, we have implemented the GAO recommendation that we make it clear to recipients that follow-on awards depend on reported results.

Performance Measure: Evaluate liability concerns – 100% of Prospective Purchaser Agreement requests addressed up to a maximum of 40 requests.

Performance Database: Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)

Data Source: Automated EPA system; Headquarters (HQ) and Regional Offices enter data into CERCLIS.

QA/QC Procedures: EPA will use the end-of-year CERCLIS information to obtain the data to support these measures, and will conduct a quality assurance audit on a representative sample of the data against actual settlement documents to ensure the accuracy and validation of the data.

Data Quality Review: None.

Data Limitations: None

New/Improved Data or Systems: None

Performance Measure: Ensure fairness by making Orphan Share Offers at 100 percent of all eligible sites.

Performance Database: Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)

Data Source: HQ and Regional Offices enter data into CERCLIS

QA/QC Procedures: Data is entered by Regional personnel and a sample is checked by HQ.

Data Quality Review: The IG reviews the end-of-year CERCLA reports to verify numbers for all measures. The process is informal and there are no results to publish.

Data Limitations: None

New/Improved Data or Systems: None

Performance Measure: Provide finality for small contributors by entering into De Minimis settlements and report the number of settlers.

Performance Database: HQ maintains a data base specifically to track the number of parties at de minimis settlements

Data Source: Manual and Automated EPA systems; HQ and Regions enter numbers.

QA/QC Procedures: Data is entered by Regional personnel and a sample is checked by HQ.

Data Quality Review: None

Data Limitations: None

New/Improved Data or Systems: None

Performance Measure: PRPs conduct 70 percent of the work at new construction starts.

Performance Database: Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)

Data Source: Automated EPA system; HQ and Regional Offices enter data into CERCLIS

QA/QC Procedures: To assure data accuracy and control, the following administrative controls are in place: 1) Superfund/Oil Implementation Manual (SPIM) – This is the program management manual which details what data must be reported; 2) Report Specifications – Report specifications are published for each report detailing how reported data are calculated; 3) Coding Guide – It contains technical instructions to such data users as regional Information Management Coordinators (IMCs), program personnel, report owners and data input personnel; 4) Quality Assurance (AQ) Unit Testing – Unit testing is an extensive QA check against current specifications; 5) QA Third Party Testing – Third party testing is an extensive test made by an independent QA tester to assure that the report produces data in conformance with the report specifications; 6) Regional CERCLIS Data Entry Internal Control Plan -- The data entry internal control plan includes: a) regional policies and procedures for entering data into CERCLIS; b) a review process to ensure that all Superfund accomplishments are supported by source documentation; c) delegation of authorities for approval of data input into CERCLIS; and, d) procedures to ensure that reported accomplishments meet accomplishment definitions; and 7) a historical lockout feature has been added to CERCLIS so that changes in past fiscal year data can only be changed by approved and designated personnel and are logged to a change-log report.

Data Quality Review: The IG reviews the end-of-year CERCLA reports to verify numbers for all measures. The process is informal and there are no results to publish.

Data Limitations: None

New/Improved Data or Systems: None

Performance Measure: Refer to DOJ, settle, or writeoff 100% of Statute of Limitations (SOLs) cases for Superfund sites with total unaddressed past costs equal to or greater than $200,000 and report value of costs recovered.

Performance Database: Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)

Data Source: Automated EPA system; HQ and Regional Offices enter data into CERCLIS

QA/QC Procedures: To assure data accuracy and control, the following administrative controls are in place: 1) Superfund/Oil Implementation Manual (SPIM) – This is the program management manual which details what data must be reported; 2) Report Specifications – Report specifications are published for each report detailing how reported data are calculated; 3) Coding Guide – It contains technical instructions to such data users as regional Information Management Coordinators (IMCs), program personnel, report owners and data input personnel; 4) Quality Assurance (AQ) Unit Testing – Unit testing is an extensive QA check against current specifications; 5) QA Third Party Testing – Third party testing is an extensive test made by an independent QA tester to assure that the report produces data in conformance with the report specifications; 6) Regional CERCLIS Data Entry Internal Control Plan -- The data entry internal control plan includes: a) regional policies

and procedures for entering data into CERCLIS; b) a review process to ensure that all Superfund accomplishments are supported by source documentation; c) delegation of authorities for approval of data input into CERCLIS; and, d) procedures to ensure that reported accomplishments meet accomplishment definitions; and 7) a historical lockout feature has been added to CERCLIS so that changes in past fiscal year data can only be changed by approved and designated personnel and are logged to a change-log report.

Data Quality Review: The IG reviews the end-of-year CERCLA reports to verify numbers for all measures. The process is informal and there are no results to publish.

Data Limitations: None

New/Improved Data or Systems: None

Performance Measure: Percentage of Federal Facilities for which final offers have been made that meet Agency policy and guidance.

Performance Database: Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)

Data Source: Regional Offices enter data into CERCLIS

QA/QC Procedures: Data is entered by Regional personnel and periodic downloads are reviewed by HQ.

Data Quality Review: HQ periodically confirms accuracy of data with EPA Federal facility Regional representatives. HQ determines whether Region has made an offer that fully meets Agency policy and guidance.

Data Limitations: None

New/Improved Data or Systems: None

Performance Measure: Percentage of Federal Facilities with final offers made withing 18 months.

Performance Database: Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)

Data Source: Regional Offices enter data into CERCLIS

QA/QC Procedures: Data is entered by Regional personnel and periodic downloads are reviewed by HQ. HQ reviews timeliness of final offers.

Data Quality Review: HQ periodically confirms accuracy of data with EPA Federal facility Regional representatives.

Data Limitations: None

New/Improved Data or Systems: None

Research

Verification and Validation of Performance Measures

Performance Measure: Annual SITE Program report to Congress provides information on the program progress, accomplishments, current and completed project status, cost savings and future direction.

Performance Database: Not applicable. This performance measure relates to an EPA scientific or technical product which is not tracked in an environmental database.

Data Source: Agency generated material

QA/QC Procedures: N/A

Data Quality Reviews: As required by the Agency-wide formal peer review policy issued in 1993, and reaffirmed in 1994 and 1998, all major scientific and technical work products used in Agency decision making are independently peer reviewed before their use. EPA has implemented a rigorous process of peer review for both its in-house and extramural research programs. Peer review panels include scientists and engineers from academia, industry, and other federal agencies.

Data Limitations: N/A

New/Improved Data or Systems: N/A

Coordination with Other Agencies

LUST

EPA, with very few exceptions, does not perform the cleanup of the leaking underground storage tanks (LUST). States and territories use the LUST Trust Fund to administer their corrective action programs, oversee cleanups by responsible parties, undertake necessary enforcement actions, and pay for cleanups in cases where a responsible party cannot be found or is unwilling or unable to pay for a cleanup. Most states have cleanup funds that cover the majority of owners and operators' cleanup costs. These state funds are separate from the LUST Trust Fund.

State LUST programs are key to achieving the objectives and long-term strategic goals. Except in Indian Country, EPA relies on State agencies to implement the LUST program, including overseeing cleanups

by responsible parties and responding to emergency LUST releases. LUST cooperative agreements are made directly to the states to assist them in implementing their oversight and programmatic role.

Superfund

The Superfund program coordinates with many other Federal and State agencies in accomplishing its mission. Executive Order 12580 delegates certain authorities for implementing Superfund to other Federal agencies. Many of these agencies perform essential services in areas where the Agency does not possess the specialized expertise. These responsibilities are carried out in close consultation and coordination with EPA. Currently, the Agency has active interagency agreements with the Department of Interior (DOI), the National Oceanic and Atmospheric Administration (NOAA), the Federal Emergency Management Agency (FEMA), the Occupational Safety and Health Administration (OSHA), and the United States Coast Guard (USCG).

These agencies provide numerous Superfund related services such as supporting the national response system by providing emergency preparedness expertise and administrative support to the national response team and the regional response teams; conducting compliance assistance visits to review site safety and health plans and developing guidelines for assessing safety and health at hazardous waste sites; conducting outreach to states, Indian tribes and Federal natural resource trustee officials regarding natural resource damage assessments; providing scientific support for response operations in EPA's regional offices; assisting in the coordination among federal and state natural resource trustee agencies; supporting the Superfund program in the management and coordination of training programs for local officials through the Emergency Management Institute and the National Fire Academy; and responding to actual or potential releases of hazardous substances involving the coastal zones, including the Great Lakes and designated inland river ports; and litigating and settling cleanup agreements and cost recovery cases. In addition, the Agency coordinates with the United States Army Corp of Engineers (USACE), states, and tribes in the identification and cleanup of approximately 9,100 formerly used defense sites nationwide. Expectations are that the Agency will play an even greater role at these sites in the future.

USACE and the Bureau of Reclamation contribute to the cleanup of Superfund sites by providing technical support for the design and construction of many remediation projects though site-specific interagency agreements. These Federal partners have the technical design and construction expertise and contracting capability needed to assist EPA regions in implementing most of Superfund's high-cost Fund-financed remedial action projects. These two agencies also provide technical on-site support to regions in the enforcement oversight of numerous construction projects performed by PRPs.

The Superfund response and Federal Facilities enforcement programs work closely with other Federal agencies (e.g., DOD, DOE, DOI, etc.) to clean up their facilities under the Superfund program. EPA also works with states and Indian tribes as key partners in the cleanup decision-making process at Superfund Federal sites.

The Agency also works in partnership with State and Tribal governments to strengthen their hazardous waste programs and improve the efficiency and effectiveness of the nation's overall hazardous waste response capability. EPA assists the states in developing their CERCLA implementation programs through infrastructure

support, financial and technical assistance, and training. Partnerships with states increase the number of site cleanups, improve the timeliness of responses, and make land available for economic redevelopment sooner, while allowing for more direct local involvement in the cleanup process.

EPA is working to enhance the role of states and tribes in the implementation of the Superfund program by encouraging their participation in all aspects of the Federal Superfund program, from site assessment through remedial design and construction. In May 1998, EPA released the "Plan to Enhance the Role of States and Tribes in the Superfund Program." The plan was developed so that EPA can share Superfund program responsibilities more fully with interested and capable states and tribes, enabling the cleanup of more sites. In 1999 and 2000, EPA continued to implement the plan. Seventeen pilots were approved with eight states and nine tribes. In January 2001, EPA completed the evaluation of the plan and released the report, "Evaluation of the Plan to Enhance the Role of States and Tribes in the Superfund Program OSWER 9375.3-06P," and issued a directive to communicate the use of the plan.

EPA's Office of Emergency and Remedial Response (OERR) works with the Office of Radiation and Indoor Air (ORIA) to most effectively fulfill the Superfund program's priorities to assist Regions in addressing radioactively contaminated Superfund sites. Under CERCLA, radioactively contaminated sites are addressed in a manner consistent with how chemically contaminated sites are addressed, except to account for the technical difference between radionuclides and chemicals. OERR works with ORIA to determine which projects and laboratory support ORIA should develop with the budget provided by OERR. This effort is intended to facilitate compliance with the NCP at radioactively contaminated sites while incorporating improvements to the Superfund program that have been implemented through the Superfund Administrative Reforms.

The focal point for our Federal preparedness efforts is EPA's role in the National Response System, which coordinates chemical emergency preparedness and response at the Federal, State and local levels. Within this structure, EPA chairs the multi-agency National Response Team, and co-chairs Regional Response Teams that oversee national, regional, and area spill emergency planning. In addition, the Agency plays a leadership role in crisis management and counter-terrorism requiring participation on a number of inter-agency workgroups.

EPA serves an active role in programs related to radiation protection for human health and the environment. EPA plays the lead role developing Federal Guidance for radiation protection as directed by the President. This Federal Guidance, which is developed by working cooperatively with other Federal agencies and the States, provides a common framework to ensure that the regulation of exposure to ionizing radiation is carried out in a consistent and adequately protective manner. Furthermore, EPA plays a role in the Interagency Steering Committee on Radiation Standards. This committee, which is composed of Federal and State partners, including the Department of Energy, Department of Defense, Department of Health and Human Services, Occupational Safety and Health Administration, the Nuclear Regulatory Commission and State radiation officials, coordinates the development of radiation protection policies. EPA also provides radiological technical expertise directly to Federal and State site managers to more effectively assess, clean up and manage radioactively contaminated sites.

Under the National Contingency Plan and the Federal Radiological Emergency Response Plan, EPA will assist the regions, states and other Federal agencies in responding to radiological emergencies. EPA will provide technical assistance and guidance on all radiation Superfund Emergency Response matters and will also offer field monitoring expertise, mobile radiochemical analysis, and dose and risk assessment support, and develop Protective Action Guidance for use by State and local authorities in protecting their populations. EPA will perform radiological lab analyses that provide data on radiation levels and risks and will make enhancements to the Environmental Radiation Ambient Monitoring System which collects data across all 50 states and the American Territories for drinking and ground water samples, and air and milk analysis.

Brownfields

The Brownfields National Partnership represents a significant investment in brownfields communities from more than 20 Federal agencies. Federal resources include additional brownfields pilots from EPA; redevelopment funds from the Department of Housing and Urban Development and the Economic Development Agency; planning funds from the Economic Development Agency and job training efforts from the Department of Labor and the National Institute of Environmental Health Sciences.

The centerpiece of the Brownfields National Partnership is the funding of 28 brownfields showcase communities which began in FY 1998. The Showcase communities were selected to receive brownfields assistance from various agencies including EPA, Department of the Interior, Department of Justice, many of those previously mentioned, as well as General Services Administration and the National Oceanographic and Atmospheric Administration. EPA and these other Federal agencies will continue to provide active support for brownfields activities across the country in 2002. EPA's commitment to the Showcase project was to award additional assessment and demonstration pilots and fund an Intergovernmental Personnel Act staff in 27 of the 28 communities. To augment the success of the Brownfields National Partnership and its efforts to clean up and redevelop brownfields properties, the Agency and its Federal partners will revitalize the partnership in FY 2002 by entering into new Memoranda-of-Understanding.

The Brownfields program also relies on partnership building with local government, State, and non-government groups to leverage federal funding with private sector funding. As part of the brownfields initiative, EPA will continue to provide outreach, curriculum development, job training, and technical assistance to community residents through cooperative agreements to community-based organizations, community colleges, universities, and private sector non-profit groups. To date, Brownfields pilots have leveraged over 11,000 cleanup, construction and redevelopment jobs. The Agency also works with cities, states, federally recognized Indian tribes, community representatives, and other stakeholders to implement the many commitments. Successful brownfields redevelopment is proof that economic development and environmental protection go hand in hand.

The Brownfields program has demonstrated that cleaning up abandoned or under-used contaminated land can have significant payoffs. Building on the pilot program, EPA will continue to partner with other Federal, state, local, and private sector efforts to restore contaminated property to economic reuse. In 2002, EPA will provide funding to 38 new assessment pilot cooperative agreements and support 38 existing brownfields assessment pilot cooperative agreements, provide technical assistance to 28 existing brownfields

showcase communities, provide support to 29 new communities to capitalize revolving loan funds, provide brownfields communities with targeted brownfields assessments (TBAs), and award 10 additional job training pilots. The Agency will also provide information and tools and develop model practices and policies to be used by local governments, developers, and transportation officials in their pursuit to redevelop brownfields properties.

RCRA

The Agency maintains a close relationship with the state agencies that are authorized to implement the Resource Conservation and Recovery Act (RCRA) corrective action program. States are expected to achieve the same level of Federal standards as the Agency, including annual performance goals of human exposures and groundwater releases controlled. As part of the state grant process, Regional offices negotiate with the state the progress in the corrective action program toward the objective of meeting the GPRA goals.

Encouraging states to become authorized for the RCRA Corrective Action program remains a priority. Currently, thirty-eight states and territories are authorized to implement the program. Several additional states are expected to gain authorization in the next one to two years. States are also encouraged to use alternate (non-RCRA) authorities to accomplish the goals of the corrective action program. These include state Superfund and voluntary programs.

The RCRA Corrective Action program also coordinates closely with other Federal agencies, primarily the Department of Defense and Energy, that have many sites in the corrective action universe. Encouraging Federal Facilities to meet environmental indicators remains a top priority.

Research

The Agency expends substantial effort coordinating with other agencies to conduct risk management and exposure research. These activities include work with the Department of Defense (DOD) in their Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP) programs. Other groups include the Department of Energy (DOE) and the Office Health and Environmental Research (OHER). EPA also conducts collaborative field demonstrations (e.g., through the SITE program) and laboratory research with DOD, DOE, and the Department of Interior (DOI) (particularly the U.S. Geological Survey) to improve characterization and risk management options for dealing with subsurface contamination. Collaborations with external organizations allow the Agency the needed flexibility in dealing with complex waste/site characterization and remediation problems and, consequently, improve the Agency's ability to meet its objective of quicker and more cost-effective site cleanups.

Characterization and monitoring research at EPA is also coordinated with other Agencies. The unique controlled spill field research facility was designed in cooperation with the U.S. Bureau of Reclamation. Geophysical research experiments and development of software for subsurface characterization and detection

of contaminants are being conducted with the USGS and DOE's LBNL (Lawrence Berkeley National Laboratory).

The USGS also has a number of programs, such as the Toxic Substances Hydrology Program, that support studies related to contamination of surface and groundwaters by hazardous materials. Groundwater modeling of MTBE is being conducted in collaboration with New York State activities to clean up sites. Also, Remediation Technology Development Forums (RTDF) on such topics as bioremediation, metal treatment, and contaminated sediments have been formed to conduct collaborative research programs addressing priority technical issues.

The Agency is working with The National Institute of Environmental Health Sciences (NIEHS) to advance fundamental Superfund research. NIEHS manages a large basic research program focusing on Superfund issues. The program is mandated in CERCLA, which establishes a "basic university research and education program" in NIEHS, and further reinforced in the Superfund Amendments and Reauthorization Act (SARA). Also in conjunction with a CERCLA mandate, EPA has established the Agency for Toxic Substances and Disease Registry (ATSDR). It provides critical health-based information so that effective cleanup decisions can be made.

The Rapid Commercialization Initiative (RCI) is a federal/state/private cooperative effort to expedite the application of new environmental technologies. The participating federal agencies include DOC, DOD, DOE, and EPA. Participating states and state organizations include the California Environmental Protection Agency, Southern States Energy Board, and the Western Governors Association.

Statutory Authorities

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. 9601-9657
- Solid Waste Disposal Act as amended by Hazardous and Solid Waste Amendments of 1984 to the Resource Conversation and Recovery Act of 1976
- Defense Base Closure and Realignment Act of 1990, and the Defense Authorization Amendments and Base Realignment and Closure Act (BRAC) of 1990, Section 2905(a)(1)(E) (10 U.S.C. 2687 Note).
- Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)
- Oil Pollution Act 33 U.S.C.A.
- Community Environmental Response Facilitation Act (CERFA)
- National Environmental Policy Act (NEPA)

- Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. (1970), and Reorganization Plan #3 of 1970
- Uranium Mill Tailings Radiation Land Withdrawal Act of 1978

C Public Health Service Act, as amended, 42 U.S.C. 201 et seq

C Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, 42 U.S.C. 5121 et seq

C Safe Drinking Water Act, 42 U.S.C. 300F et seq (1974)

C Executive Order 12241 of September 1980, National Contingency Plan, 3 CFR, 1980

C Executive Order 12656 of November 1988, Assignment of Emergency Preparedness Responsibilities, 3 CFR, 1988

Research

C Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA)

C Response Conservation and Recovery Act (RCRA)

- Oil Pollution Act (OPA)

Objective #2: Regulate Facilities to Prevent Releases.

By 2005, EPA and its federal, state, tribal, and local partners will ensure that more than 277,000 facilities are managed according to the practices that prevent releases to the environment.

Resource Summary
(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Actual	FY 2001 Enacted	FY 2002 Request
Regulate Facilities to Prevent Releases	**$148,989.7**	**$155,790.7**	**$164,632.3**	**$163,691.0**
Environmental Program & Management	$90,523.9	$94,669.4	$103,122.8	$101,542.0
Science & Technology	$6,731.0	$5,996.1	$8,002.4	$8,994.1
State and Tribal Assistance Grants	$38,038.4	$38,934.6	$39,351.8	$39,351.8
Leaking Underground Storage Tanks	$34.9	$0.0	$0.0	$0.0
Oil Spill Response	$13,372.8	$15,877.8	$14,013.6	$13,597.4
Hazardous Substance Superfund	$288.7	$312.8	$141.7	$205.7
Total Workyears	785.8	851.0	791.9	790.9

Key Programs
(Dollars in thousands)

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
RCRA Permitting	$13,325.0	$15,724.4	$14,309.0	$16,889.0
RCRA State Grants	$27,493.7	$27,493.7	$27,433.2	$27,433.4
Waste Combustion	$6,890.3	$4,438.3	$4,302.2	$5,423.1

	FY 1999 Enacted	FY 2000 Enacted	FY 2001 Enacted	FY 2002 Request
Risk Management Plans	$7,254.9	$7,242.8	$8,041.8	$7,643.9
Community Right to Know (Title III)	$4,544.7	$4,797.5	$5,207.8	$5,136.8
Underground Storage Tanks (UST)	$6,378.3	$6,203.9	$7,043.4	$7,190.2
UST State Grants	$10,544.7	$11,944.7	$11,918.4	$11,918.4
Oil Spills Preparedness, Prevention and Response	$11,851.9	$11,820.4	$11,948.9	$11,943.5
Hazardous Waste Research	$6,167.9	$5,379.8	$6,990.0	$8,994.1
EMPACT	$0.0	$0.0	$160.5	$0.0
Project XL	$112.6	$117.4	$126.4	$144.6
Common Sense Initiative	$130.0	$0.0	$0.0	$0.0
Civil Enforcement	$1,225.3	$1,298.5	$1,264.7	$1,363.8
Compliance Assistance and Centers	$274.9	$353.4	$267.9	$266.3
Rent, Utilities and Security	$0.0	$6,644.8	$8,350.2	$8,277.0
Administrative Services	$212.7	$1,187.7	$1,770.3	$1,605.0
Regional Management	$0.0	$530.5	$1,681.9	$703.1

FY 2002 Request

Underground Storage Tank Program

The underground storage tanks (UST) program, in partnership with the states, prevents releases, detects releases early in the event they occur, and addresses leaks from USTs containing petroleum and hazardous substances. In FY 2002, the Agency's goal is to promote and enforce compliance with the regulatory requirements aimed at preventing and detecting UST releases, and protecting our nation's groundwater. While the vast majority of the 714,000 active tanks have the proper equipment, significant work still remains to ensure UST owners and operators properly maintain and operate these USTs. The Agency's primary role is to work with states to promote compliance with the spill, overfill, and corrosion protection requirements, and ensure that the leak detection requirements continue to be a national priority. The Agency's role encompasses compliance for all federally regulated UST systems, including those on private and public property, tribal lands, and federal facilities.

Continuing to improve owners' and operators' compliance with the UST regulations is one of the Agency's national initiatives and a long-term goal of the UST program. The Agency will work with states to achieve improved compliance and to develop compliance targets through FY 2005 with the goal of achieving improved compliance in each state every year. The Agency will develop outreach and education tools for owners and operators to help them stay in compliance, and assist customizing these documents to meet State-specific needs.

The Agency will continue to develop multi-site agreements with UST owners to promote compliance. The Agency expects to enter into three to five multi-site compliance agreements in FY 2002 with Federal, State, municipal, Tribal, or private UST owners.

In FY 2002, the Agency will evaluate UST system performance to determine how well existing UST systems are preventing and detecting releases, and to identify any needed options for improving performance. While the Federal and State UST requirements have led to substantially improved UST systems and substantially fewer new releases, some releases from newer tanks continue to occur, as reported by the states. Based on a 1998 EPA report to Congress, "National Water Quality Inventory," releases from USTs are the leading cause of groundwater contamination in the country, and the presence of methyl tertiary butyl ether (MTBE) in gasoline increases the importance of preventing and rapidly detecting releases.

In 2002, the Agency will focus its efforts on further evaluating those components or procedures which pose the greatest continued threat to human health and the environment through UST releases or delayed detection of petroleum products, including MTBE. The Agency will also begin work to resolve the remaining problems, such as contamination through MTBE releases, through outreach and education, training and guidance, or pursuing regulatory improvements. This work will involve substantial coordination with our state and industry partners, and will likely involve initiating and coordinating various research efforts.

EPA has the primary responsibility for implementation of the UST program in Indian Country. This responsibility requires EPA regional offices to educate owners and operators about the UST requirements, conduct inspection and enforcement activities, and maintain a database of information on USTs located in Indian Country. Grants available from the authorization in the Departments of VA, HUD & Independent Agencies Appropriations Act dated Oct. 21, 1998 will continue to help tribes develop the capability to administer UST programs.

Chemical Emergency Preparedness and Prevention

The Agency's chemical emergency preparedness and prevention program addresses the risks associated with the manufacture, transportation, storage and use of hazardous chemicals to prevent and mitigate chemical releases. The program also implements right-to-know initiatives, stemming from the Emergency Planning and Community Right-to-Know Act, to inform the public about chemical hazards and encourages actions at the local level to reduce risk. All Americans benefit from an effective chemical safety program because hazardous chemical substances are virtually everywhere and chemical accidents are an ever-present

danger. A 1996 analysis estimated that more than 400 releases of toxic and flammable chemicals resulted in two dozen fatalities, 1,000 injuries, thousands of evacuations, and more than $1 billion in damages.

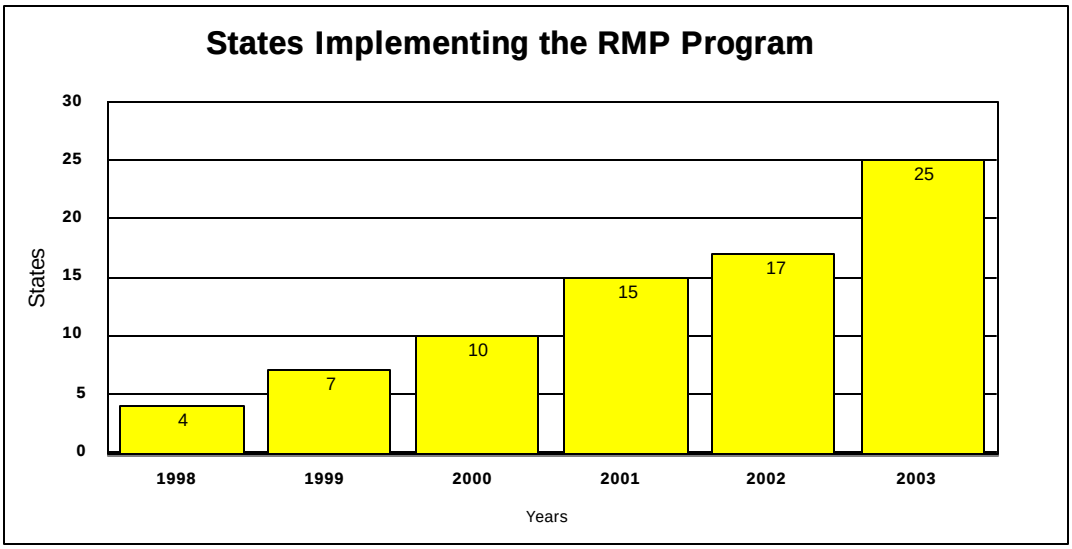
Under the Clean Air Act chemical accident risk management program, Federal, State, and local agencies and the general public have access to large amounts of information on the presence of chemicals in every community and the potential hazards those chemicals present. Section 112(r) of the Clean Air Act requires an estimated 16,000 facilities to develop comprehensive risk management plans (RMPs) and submit them to EPA, State agencies, and local emergency planning committees (LEPCs). This number is fewer than the 36,000 EPA previously estimated. The reduction is the result of a revised, lower estimate by EPA of covered facilities, as well as reports that many entities reduced their on-site inventories which enabled them to fall beneath the threshhold reporting requirement.

Each RMP identifies and assesses the hazards posed by on-site chemicals. It also provides a five-year facility accident history and outlines an accident prevention program and an emergency response plan. The statutory deadline for filing RMPs was June 1999. While the numbers are still being tallied, EPA estimates that most of those required to submit RMPs have done so. A program priority in 2002 will be to increase compliance with RMP requirements, particularly among the small business community. This will be done by providing a combination of technical assistance, outreach and training.

Under the Chemical Safety Information, Site Security and Fuels Regulatory Relief Act, EPA and the Department of Justice published regulations in 2000 governing public access to sensitive information about the potential off-site consequences (OCA) of accidental chemical releases from industrial facilities. The rules address concerns that internet posting of such data could increase the risk of terrorist or criminal activity by providing the public with alternate methods to access important chemical information about their communities. Some of these methods include: providing citizens with paper copies of OCA data through Federal reading rooms; making available a read-only electronic access system on RMP chemical hazard information; and creating a vulnerable zone indicator system that allows the public to query an internet-based system to better understand some aspects of the risk expressed by the OCA information. These systems are in the early phases of implementation and are expected to be fully operational in 2002.

EPA, in partnership with states, will promote implementation of the RMP program during 2002. The Agency believes individual states are best suited to implement the program because they benefit directly from its success and have established relationships with the communities that may be at risk. EPA also believes that as State officials see their facilities achieve compliance, they will become motivated to seek delegation. The Agency will continue to emphasize flexibility in how states will be authorized to receive delegation and eventually implement the RMP program themselves. EPA will work with states to secure agreements to partially implement the RMP program and help them to develop and manage individual program components. In addition to this effort, EPA will provide states a combination of grant assistance, technical support, training, and other outreach services to help them fully develop and receive delegation of the program. The Agency's 2002 goal is to persuade two additional states to manage a RMP program which would bring the total number of authorized states to seventeen. EPA will also work to identify the next set of states that would benefit from running their own accident prevention program.

Because the Clean Air Act mandates a RMP program for every State, EPA regional offices will continue to manage RMP programs in those states that have not accepted delegation. In 2002, the Agency will perform its audit obligations through a combination of desk audits of RMP plans and on-site facility inspections. Audit selection will be based upon several criteria, including accident history patterns of noncompliance, types and quantities of chemicals, and geographic location.



Due to the complexity and large number of RMP audits, EPA is exploring a third party audit program, where RMP facilities would be given the option to voluntarily undergo an audit by a qualified third party auditor in exchange for certain regulatory incentives, such as lower future audit priority. Financial incentives may also exist via the participation of insurance company representatives as third party auditors. For the past several years, the Agency has funded and participated in research on market-based and other innovative means of improving the environment. This research has demonstrated that third party audits would create numerous advantages for EPA, states, participating facilities and auditors, and the public.

In an effort to help implementing agencies, states, and prospective third party auditors acquire or improve skills required to conduct audits, EPA has identified an RMP audit curriculum. It is currently developing two curriculum courses which will be completed and piloted in the third quarter of FY 2001. The training will be offered extensively throughout the country in FY 2002.

EPA will continue an initiative to analyze data contained in the RMPs. The Agency is examining trends and patterns in such areas as industry sector, facility size, geographic region, and chemicals. In particular, EPA is reviewing epidemiological methods, consisting of a process of cause and effect, to analyze the RMP's five-year accident history data to explore accident risk factors and precursors.

One of EPA's vital roles is to help communities implement accident prevention programs. LEPCs (established under the Emergency Planning and Community Right to Know Act) serve as the focal point for discussions on reducing chemical risks at the local level. Under the RMP program, LEPCs take information

on how facilities are reducing the risk of accidents and integrate it into their emergency plans and community right-to-know programs. In 2002, EPA will support LEPC efforts by providing tools, technical assistance and guidance to better enable them to use the risk information. In the regulatory area, the program expects to undertake the second phase of streamlining EPCRA's reporting requirements and will complete regulatory action on changes resulting from a review of the RMP chemicals list. EPA will also continue an initiative to improve and enhance emergency preparedness and prevention in Tribal communities.

The independent Chemical Safety Board (CSB) places responsibilities on the Agency with regard to chemical safety and accident prevention. The same Clean Air Act provisions that established the CSB requires EPA to respond to the Board's recommendations and provide support for its activities. EPA has completed a memorandum of understanding with the Board in that delineates each Agency's role and working relationship. In FY 2002 EPA expects to conduct activities in the following areas:

- Responding to CSB recommendations that result from investigations. EPA anticipates each CSB investigation may lead to several recommendations which may require program adjustments and modifications. For example, EPA is working with the Occupational Safety and Health Administration and the CSB on two recommendations associated with reactive chemical process safety arising from the Morton International chemical accident in New Jersey;

- Gathering field information to understand how to prevent accidents and to support decision-making on CSB recommendations; and

- Taking prevention actions and providing outreach to industry, government and the public to enhance application of chemical safety measures. The program will focus on lessons learned from accidents and issue case studies and chemical safety alerts to reduce the risk of future accidents. In FY 2000, EPA produced and released one case study and four chemical safety alerts.

Oil Spills

The goal of the oil spill program is to protect public health and the environment from hazards associated with a discharge or substantial threat of a discharge of oil or hazardous substances into navigable waters, adjoining shorelines, and exclusive economic zones of the United States. Based on data obtained from the National Response Center, which is run by the United States Coast Guard, each year more than 24,000 oil spills occur in the United States, over half of them within the inland zone over which EPA has jurisdiction. On average, one spill of greater than 100,000 gallons occurs every month from approximately 450,000 EPA-regulated oil storage facilities and the entire oil transportation network. Oil spills can contaminate drinking water supplies; cause fires and explosions; kill fish, birds, and other wildlife; destroy habitats and ecosystems; and impact the food chain. There can also be serious economic consequences of oil spills because of their impact on commercial and recreational uses of water resources.

The oil spill program prevents, prepares for, and responds to oil spills. EPA protects inland waterways through oil spill prevention, preparedness, and enforcement activities associated with the 450,000 non-transportation-related oil storage facilities EPA regulates. In addition to its regulatory responsibilities, EPA serves as the lead responder for the inland zone for all spills, including spills from outside of its regulated universe, such as spills from pipelines, trucks, and other transportation systems (regulated by the Department of Transportation). EPA accesses the Oil Spill Liability Trust Fund (OSLTF), administered by the United States Coast Guard, to fund site-specific spill response activities.

The oil spill program establishes requirements to prevent and prepare for spills at oil storage facilities subject to its regulations. The Oil and Hazardous Substances National Contingency Plan (NCP) is the Nation's blueprint for the federal response to discharges of oil and hazardous substances. EPA's regulatory framework is chiefly composed of the Spill Prevention, Control, and Countermeasures (SPCC) regulation and the Facility Response Plan (FRP) regulation.

All regulated oil storage facilities must prepare SPCC plans. These facilities, which range from hospitals and apartment complexes storing heating oil to large tank farms, include any oil storage facility with aggregate aboveground storage capacity greater than 1,320 gallons, or underground storage greater than 42,000 gallons (not otherwise subject to the UST program requirements). Six hundred-eighty additional facilities will be in compliance with SPCC provisions in 2002 as a result of EPA's activities. In addition, certain high-risk oil storage facilities must prepare FRPs to identify and ensure the availability of resources to respond to a worst case discharge, establish communications, identify an individual with authority to implement removal actions, and describe training and testing drills at the facility. In 2002, EPA will review a small number of FRPs. These EPA reviews are triggered by a large spill or a spill at a particularly high risk facility.

EPA also develops area contingency plans (ACPs), in conjunction with area committees (State, local and Federal officials in a given geographic location). The ACPs detail the responsibilities of various parties in the event of a response, describe unique geographical features of the area covered, and identify available response equipment and its location.

In 2002, EPA will continue efforts to revise and implement SPCC regulation. EPA is planning to revise SPCC regulations, to reflect a more performance-based rule that emphasizes industry standards. This approach would represent a comprehensive overhaul of the basic regulatory structure of the current oil spill prevention program. The Agency anticipates undertaking a new and extensive outreach effort to the regulated community about industry compliance once a new rule is promulgated. The Agency must also train its own workforce of inspectors and other staff to assist in compliance assistance and enforcement of the anticipated revisions. In addition to these prevention efforts, EPA will continue its preparedness efforts by focusing on development of ACPs. Response efforts include evaluating, monitoring and/or responding to all known spills within the inland waterways. Over the past five years (1996-2000), EPA has received and evaluated approximately 40,000 oil spill notifications, served as lead responders at approximately 534 oil spills, and shared response responsibility with another party at approximately 867 responses.

Resource Conservation and Recovery

The Agency's Resource Conservation and Recovery Act (RCRA) program accounts for over 6,500 of the facilities addressed by this objective (number of facilities in 2002 does not include RCRA Industrial D facilities). The RCRA program, working in partnership with states, reduces the risk of human exposures to hazardous, industrial nonhazardous, and municipal solid wastes. Every year, municipalities and industries generate approximately 230 million tons of municipal solid waste, 40.7 million tons of industrial hazardous waste (does not include wastewater), and more than 7.6 billion tons of industrial nonhazardous waste. A combination of regulations, permits, and voluntary standards and programs ensure, to the greatest extent possible, safe management of these various wastes. New contaminated waste sites, possibly Superfund sites, could result from mismanagement of these wastes threatening nearby communities. In 2002, the focus of the RCRA program will be on reducing risk, tailoring management practices to the potential risks of specific wastes, and creating efficiencies through streamlining procedures and waste management procedures and systems.

The RCRA program reduces the risk of exposures to dangerous hazardous wastes by establishing a "cradle-to-grave" waste management framework. This framework regulates the handling, transport, treatment, storage, and disposal of hazardous waste, ensuring that communities are not exposed to hazards through improper management. The main vehicle for hazardous waste program implementation is the issuance of RCRA hazardous waste permits which mandate appropriate controls for each site. Significant progress has been made by hazardous waste management facilities having appropriate controls in place to minimize the threat of exposure to hazardous substances. To date, 47 states, Guam and the District of Columbia are authorized to issue permits.

Strong state partnerships and the authorization of states for all portions of the RCRA program, including regulations that address waste management issues contained in permits, is an important goal. The Agency and the states have now permitted most operating land disposal sites (e.g., landfills), as well as most commercial incinerators. Permits for operating storage and treatment facilities, as well as post-closure facilities, comprise the largest remaining workload. In a rulemaking designed to simplify the permitting process for lower-risk treatment and storage facilities, the Agency is planning to propose, in 2001, a standardized permit. EPA anticipates promulgating a final rule in 2002. During 2002, the Agency will provide technical assistance to states that are authorized to implement the RCRA program, including site specific assistance, regulatory interpretation and program guidance. The Agency will also continue implementation efforts in those states not authorized to conduct permitting activities.

In addition to making changes in the permitting process, the Agency looks to improve all other aspects of the RCRA program. The entry point to this system is the identification of hazardous waste. It is the Agency's responsibility to identify those wastes that, when mismanaged, may pose a substantial risk to human health and the environment, as well as to identify those wastes for which burden should be reduced because of low risk.

In line with efforts to better calibrate risk and regulatory standards, the Agency is currently developing two targeted exemptions from the hazardous waste mixture and derived-from rules: one for certain solvents

destined for wastewater treatment and discharge under the Clean Water Act, and another for slagged combustion residues from hazardous waste combustors. Other targeted exemptions are being assessed for later development, and the Agency will consider ways to streamline the current de-listing process. In addition, EPA is continuing to develop a hazardous waste identification rule (HWIR), focusing on reducing the uncertainty associated with the exposure assessment model that would be used to identify risk-based exemption levels. In 2002, EPA will revise the 3MRA (Multimedia, Multipathway, Multireceptor Risk Assessment) model in preparation for review by the Science Advisory Board.

In 2002, the Agency's waste identification program will continue assessing whether releases of certain industrial wastes are capable of posing a substantial hazard to human health or the environment. The Agency intends to finalize two separate rulemakings in 2002 that will identify whether or not specific wastes from the inorganics manufacturing sector and the paint manufacturing sector warrant being listed as hazardous waste.

In 2002, the Agency will continue to investigate the technical and implementation concerns that both hazardous waste generators and regulators have encountered over the years regarding waste identification. The Agency is reviewing the desirability and feasibility of pursuing efforts to supplement its standards with supplemental guidance and plans to update its regulations to reflect new references to Department of Transportation regulations. The Agency will also continue its ongoing examination of waste leaching and the role of leaching potential in identifying wastes as hazardous and in determining the effectiveness of treatment technologies and test methods for measuring leaching potential.

The next step in waste management is transportation from generator to a treatment and disposal facility, a step regulated and controlled by the hazardous waste manifest system. As part of the Agency's continuing efforts to streamline RCRA procedures and systems, EPA plans to finalize major changes to the hazardous waste manifest system in 2002. A proposal scheduled to be issued in 2001 includes significant changes to the hazardous waste manifest, the form which documents that off-site shipments of hazardous waste in fact arrived at permitted facilities, in particular allowing the waste tracking and data collection features of the manifest to be automated. The form revision and automation proposals could greatly reduce the paperwork burdens on waste handlers and authorized states, while improving the effectiveness of tracking waste shipments.

Treatment and disposal of hazardous waste is the primary area for many changes the Agency is making to the RCRA program. Combustion is one typical method of treatment of hazardous waste. Hazardous waste incinerators and cement and lightweight aggregate kilns that burn hazardous waste are now covered by a maximum achievable control technology (MACT) rule and will need a Title V (air) permit. The Agency estimates that most facilities will demonstrate compliance with the MACT standards and transition from RCRA to Clean Air Act permitting in 2001 and 2002 and expects technical assistance to be critical during this time. In 2002, the Agency is planning to propose another MACT rule to cover emissions from hazardous waste burning boilers and halogen acid furnaces.

In 2002, the Agency is planning to arrange its approach to the management of cement kiln dust. These proposed regulations were developed to provide substantial flexibility in how cement wastes are managed to ensure protection of human health and the environment.

To assure that treated wastes are managed safely, the Agency will work to reduce long-term risks from particularly "hard-to-treat" wastes. These include mercury, arsenic, and other toxic metals, both in process wastes as well as in contaminated soils. In 2001, the Agency will propose improvements on mercury treatment and management to better enable mercury stockpiles to be safely disposed.

Sometimes hazardous wastes are treated and reused in other products. In 2002, the Agency intends to complete its regulatory changes addressing potential risks associated with the use of hazardous waste in fertilizers. In 2000, EPA proposed revisions to existing RCRA standards for recycling of hazardous waste in fertilizers, to provide a more consistent and appropriate regulatory framework for this practice, while ensuring protection of human health and the environment.

The Agency collaborates with other Federal agencies, states, tribes and industry to promote safe handling of wastes from mining, oil and gas production, and electric utilities industries. In 2002, the Agency plans to develop a proposal to issue Subtitle D regulations for placement of coal combustion wastes in landfills, surface impoundments, and in mines. Our primary focus will be on large utilities for which we currently have a substantial amount of relevant data. The Agency also plans to continue to gather additional data on industrial burners of coal, as well as on the potential risks and techniques for addressing unacceptable risks associated with minefilling of coal combustion ash.

The Agency also works to reduce risks from industrial nonhazardous waste, also known as Industrial D waste. Manufacturing facilities generate and dispose of 7.6 billion tons of industrial nonhazardous waste each year. Partnering with State agencies and industry, EPA issued draft guidelines for management of industrial solid wastes in 2000. The guidelines address a range of issues related to the management of industrial nonhazardous waste, including groundwater contamination, air emissions resulting from solid waste disposal, and alternatives to waste disposal, such as recycling and waste prevention. The recommendations in these voluntary guidelines incorporate substantial flexibility for a broad range of approaches for dealing with a diverse set of waste streams which pose varying degrees of risk in various site-specific situations. In 2002, in conjunction with the states and a focus group comprised of the states, industry, and the environmental community, the Agency will finalize and issue guidelines on planning, designing, constructing, and operating new solid waste management facilities at industrial sites that generate nonhazardous solid wastes. Following issuance of the guidelines, EPA will begin efforts to foster implementation.

In 2001, the Agency completed the review of its solid waste landfill criteria to identify areas for improvement and announced those areas for which it will consider revising regulations to provide additional flexibility for small landfills and others so that compliance is less costly and easier to achieve. Based on this review in 2002, the Agency plans to initiate appropriate regulatory revisions.

Waste management, particularly issues surrounding disposal in open dumps, is a significant environmental concern for tribes. A 1997 report to Congress by the Indian Health Service identified 143 high-threat open dumps on tribal lands. In 2001, the Agency began the third year of the interagency program directed toward closing open dumps and/or ensuring that those municipal solid waste landfills in tribal country that wish to remain operating comply with regulations and work toward the most efficient and effective solutions

that result in the greatest positive environmental impact. Agencies participating in this program include the Bureau of Indian Affairs, Indian Health Service, and others. The Agency will also assist tribal governments in building capacity for hazardous waste program management.

In addition to the more specific program improvements already described, EPA looks for opportunities to move the RCRA program into the future in innovative ways. In 2002, the Agency will continue to monitor the success of innovative, site-specific projects. These individual facility projects experiment with alternative regulatory requirements that may yield superior environmental results. Currently there are more than 20 innovative projects with RCRA components that have been developed jointly by the Regional offices and EPA headquarters, such as one to experiment with more flexible, performance-based regulatory requirements for industries (e.g., public utilities and laboratories) that generate small quantities of hazardous wastes at numerous locations. Other RCRA related projects include one to allow flexible regulatory approaches to treating hazardous wastes that result in reduced releases of pollutants to the environment and one to provide states with latitude in easing certain hazardous waste regulatory requirements for environmentally responsible facilities. In 2002, the Agency will assess whether to develop more generally applicable reforms based on successful projects.

Better technology also improves the entire RCRA program. In 2002, the Agency plans to continue to move forward in its redesign of information management within the waste program under the Waste Information Need (WIN/Informed) Initiative. Working with state partners, the Agency has been engaged in a multi-year review of the RCRA waste management needs in an effort to provide improved access to hazardous waste information, reduce burden to data providers and to better match information technology. During 2002, the Agency will implement enhancements and will determine what new information support improvements will reflect site verification and reporting feasibility studies to be completed in 2001.

Radiation Waste Management, Clean Materials, and Emergency Response

The Radiation program will continue its efforts to address excessive radiation exposure to the public by setting priorities in waste management, clean material, and emergency response. EPA will certify that all radioactive waste shipped by the Department of Energy (DOE) to the Waste Isolation Pilot Plant (WIPP) is permanently disposed of safely and according to EPA standards. The Agency will also implement the clean materials program by working with the Department of State, Customs Service, other Federal agencies, state agencies, and international organizations to deal with metals and finished products entering the country suspected of having radioactive contamination. Developing emergency planning criteria and coordinating Agency support to other Federal agencies and the states response to radiological emergencies will be conducted. EPA will also evaluate human health and environmental risks from radiation exposure and provide a basic understanding of the biological effects of radiation. Finally, EPA will implement its strategy to address Technologically Enhanced Naturally Occurring Radioactive Material issues in conjunction with other Federal agencies, states, tribes, industry, and environmental groups.

Research

Research to support the Agency's objective of managing facilities to prevent contaminant releases into the environment is conducted in two major areas: multimedia science and waste management.

Multimedia Science

In line with efforts to better estimate risk and regulatory standards, EPA is developing: a series of targeted exemptions for low-risk waste; a multimedia, multi-pathway exposure and risk assessment model to identify other low-risk waste streams; and opportunities to streamline the de-listing process.

EPA estimates that these risk-based efforts could save hundreds of millions of dollars annually. The Multimedia, Multi-pathway, and Multi-receptor Exposure and Risk Assessment (3MRA) methodology has been developed and is being improved to provide an important component of this new regulatory approach. Multimedia-based research is related to the development of allowable national "exit levels" (levels below which a waste or waste stream is excluded from regulation under RCRA Subtitle C) based on sound scientific data and models. The research is intended to develop a systems approach to modeling and data management.

The main research areas to improve the Multimedia, Multipathway, and Multi-receptor Exposure and Risk Assessment (3MRA) technology include:

1) collecting support research activities focused on improving, and making more realistic, some of the existing physical, chemical, and biological processes algorithms found in the current system,

2) adapting the methodology for use at larger spatial scales, or for use in concert with larger spatial scale modeling systems,

3) enhancing the technology with more comprehensive uncertainty assessment capabilities, and

4) implementing a comprehensive independent testing and validation program.

A major product of FY 2002 will be a revised 3MRA modeling system and documentation for the upcoming regulatory proposal.

Waste Management

In terms of waste management, a number of significant technical problems remain. Some hazardous waste disposal techniques need to be reevaluated and improved to ensure releases are minimized. Improved techniques to actually predict such releases need to be developed. In the area of municipal and solid waste disposal, an increasing number of companies are starting to design landfill and bioreactors to save space and reduce long-term liabilites. However, the effectiveness of such systems and their environmental impacts still have many uncertainties.

Waste management research will be conducted to improve ways to manage both solid and hazardous wastes. This includes development and/or evaluation of more cost-effective waste treatment and containment processes. In FY 2002, research on bioreactors will continue, along with studies of the design and effectiveness of RCRA and municipal waste containment units. Bioreactor research will study ways to make such systems more effective, while also determining how to monitor and minimize relases to the environment through air and groundwater. In addition, research on metal bearing, hard-to-treat RCRA wastes, and the leachability of treated hazardous wastes will continue. Technical support for the cleanup of RCRA waste management facilities will be expanded in FY 2002. This expansion will help answer complex scientific questions concerning appropriate processes for RCRA Corrective Action.

Also, as part of waste management, hazardous waste combustion research addresses incinerators and industrial combustion systems burning waste. Emissions from these facilities remain a public concern and a numbers of uncertainties about them exist. Emissions characterization and control of toxic contaminants such as dioxin, furans, mercury, lead, cadmium, products of incomplete combustion (PICs), and other combustor risk issues need further research to reduce uncertainties related to waste combustion and provide protection to the public and the environment. The focus of work is on determining how to reduce emissions through system design and operation changes, as well as through the use of add-on controls. In FY 2002, studies of factors influencing the formation of dioxin and other PIC's in boilers will continue. Research on selection of PIC surrogates, PIC measurement techniques, and bench-scale research on factors influencing PCB formation will also continue.

FY 2002 Change from FY 2001 Enacted

<u>EPM:</u>

- (+$1,786,700) This increase reflects an increase in workforce costs.

- (-$316,200) Redirection of risk management program (RMP) and Emergency Planning and Community Right-to-Know (EPCRA) programmatic resources to cover anticipated FY 2002 workforce costs.

- (-$1,696,300) The FY 2002 Request is $1,696,300 below the FY 2001 Enacted budget level due to Congressional earmarks received during the FY 2001 appropriations process which are not included in the FY 2002 President's Request.

- (-$400,000) Decrease to RCRA programmatic funds to support agency's cost of living allowance requirements.

- (-$902,300) Redirected resources to RCRA program in Goal 4 that reflects adjustments to the working capital fund, completion of surface impoundment study and completed rule makings.

- (-$400,000) Decrease to program support and evaluation as a result of streamlining ongoing processes within RCRA.

- (-9.1 FTE) Reduction in work years from the prevention of releases from solid and hazardous waste management facilities.

Research

S&T

- (+$1,811,300, +12.6 FTE) This increase to waste management reflects a redirection from Goal 5, Objective 1, soil and sediment remediation, to Goal 5, Objective 2, waste management research, specifically to risk management technical support and subsurface processes research. While this represents a shift out of soil and sediments remediation research under the Science and Technology Appropriation in Goal 5, Objective 1, substantial effort in this area is supported under the hazardous substance research program under that objective. Also included in this increase is a redirection from the Environmental Technology Verification (ETV) program in Goal 8 Objective 4, which represents a planned reduction to that program. The resources will be used to fund research that examines improved ways to manage solid and hazardous waste, including developing and evaluating more cost-effective alternatives.

Annual Performance Goals and Performance Measures

Tribal Prevention Assistance

In 2002 EPA will survey tribes to identify chemical facilities subject to Emergency Planning and Community Right to Know Act (EPCRA) requirements and tribal emergency preparedness programs in place.

In 2002 EPA will provide support and funding to tribes participating in the multi-agency Tribal Open Dumb Cleanup Project, which will ultimately result in closing or upgrading of existing high threat open dumps on Indian Lands.

In 2002 EPA will evaluate RCRA Subtitle C management needs for an additional 36 Federally recognized tribes.

In 2001 EPA will provide support and funding to tribes participating in the multi-agency Tribal Open Dump Cleanup Project, which will ultimately result in closing or upgrading of existing high threat open dumps on Indian Lands.

In 2001 EPA will evaluate RCRA Subtitle C management needs for 36 Federally recognized tribes.

In 2001 EPA will develop a strategy to promote development of tribal chemical emergency preparedness programs.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Develop surveys and begin data collection.				1	data gathering
Development of draft strategy.			1		draft strategy
Tribes evaluated.			36	36	evaluations
Open dumps assessed.			no target	no target	assessments
Open dumps upgraded to comply with Subtitle D landfill standards.			no target	no target	upgrades
Open dumps with contents transferred and protections against future dumping in place.			no target	no target	sites

Baseline: EPA is currently working to assess the number of tribes with chemical hazards on tribal lands.

UST Compliance

In 2002 EPA and its state and tribal partners will achieve levels of 75% UST compliance with EPA/State leak detection requirements; and 96% of UST compliance with EPA/State December 22, 1998 requirements to upgrade, close or replace substandard tanks. (EPA is in the process of changing the way it measures compliance, including changing from a per tank, to a per facility basis.)

In 2001 EPA and its state and tribal partners will achieve levels of 70% UST compliance with EPA/State leak detection requirements; and 93% UST compliance with EPA/State December 22, 1998 requirements to upgrade, close or replace substandard tanks. (EPA is in the process of changing the way it measures compliance, including changing from a per tank, to a per facility basis.)

In 2000 Goal not met. 86% of USTs demonstrated compliance with the 1998 requirements to upgrade, close or replace substandard tanks. The original goal was based on equipment changes to UST systems. However, the 86% percent reflects operational compliance as well as equipment changes.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Percentage of USTs in compliance with the 1998 deadline requirements.		86%	93%	96%	compliance
Percentage of USTs in compliance with the leak detection requirements.			70%	75%	compliance

Baseline: EPA has worked with stakeholders to develop new measures that will account for significant operational compliance. Data are being collected in FY 2001 and a new baseline should be available in FY 2002.

Emergency Planning

In 2002 90% of facilities will be submitting RMPs, 2 states (for a cumulative total of 17) will be implementing accident prevention programs and 300 audits will be completed on RMP plans to determine completeness and accuracy.

In 2001 85% of facilities will be submitting RMPs, 5 states (for a cumulative total of 15) will be implementing accident prevention programs, and 300 audits will be completed on RMP plans to determine completeness and accuracy.

In 2000 EPA met its goal by documenting compliance with RMP requirements at 75% of the covered facilities, facilitating 3 additional states in implementation of the RMP program and conducting 266 RMP facility audits.

In 1999 In FY99, the electronic system for collecting and establishing baseline data on RMP facilities was completed. The total number of facilities which have submitted RMPs is 14,405. Additionally, 2 States are implementing a prevention program.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request		
Percentage of facilities which have submitted RMPs.			75%	85%	90%	facilities
RMP audits completed.		266	300	300	audits	
Number of states implementing accident prevention programs.	2	3	5	2	states	
Number of LEPCs implementing the Clean Air Act 112 (r) chemical RMP-prevention programs	not available				LEPCs	

Baseline: By FY 2000, 75% of facilities were compliant with RMP requirements and 10 states were implementing accident prevention programs.

Oil Spill Prevention Compliance

In 2002 680 additional facilities will be in compliance with the Spill Prevention, Control and Countermeasure (SPCC) provisions of the oil pollution prevention regulations, for a cumulative total of 3,112 facilities since 1997.

In 2001 680 additional facilities will be in compliance with the Spill Prevention, Control and Countermeasure (SPCC) provisions of the oil pollution prevention regulations, for a cumulative total of 2,432 facilities since 1997.

In 2000 EPA exceeded its goal, with an additional 678 facilities in compliance with spill prevention, control and countermeasure (SPCC) provisions of the oil pollution regulations, for a cumulative total of 1,752 facilities in compliance since 1997.

In 1999 EPA exceeded its goal by bringing 774 facilities into compliance with SPCC provisions.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Facilities in SPCC compliance.	774	678	680	680	facilities

Baseline: 1,752 facilities were in compliance in FY 2000.

Oil Spill Response

In 2002 Respond to or monitor all significant oil spills in the inland zone. EPA typically responds to 70 oil spills and monitors 130 oil spill cleanups per year.

In 2001 EPA will respond to or monitor all significant oil spills in the inland zone. EPA typically responds to 70 oil spills and monitors 130 oil spill cleanups per year.

In 2000 EPA exceeded its goal by responding to 176 oil spills and monitoring response at 192 oil spills.

In 1999 EPA exceeded its goal by responding to 94 oil spills and monitoring response at 229 oil spills.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Oil spills responded to by EPA.	94	176	70	70	spills
Oil spills monitored by EPA.	229	192	130	130	spills

Baseline: EPA typically responds to 70 oil spills and monitors 130 oil spill cleanups per year.

Hazardous Waste Combustion

In 2002 Develop the Phase II rule for reducing hazardous waste combustion facility emissions of dioxins, furans and particulate matter under the Clean Air Act.

In 2001 Develop the Phase II rule for reducing hazardous waste combustion facility emissions of dioxins, furans and particulate matter under the Clean Air Act.

In 2000 EPA completed 1) the industry scoping study and report in development of the Phase II rule for reducing hazardous waste combustion facility emissions of dioxins, furans, and particulate matter under the Clean Air Act, and 2) the initial analysis of EPA databases and solicitation of industry comment.

In 1999 EPA promulgated Phase I of the waste combustion rule.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Complete industry scoping studies and issue report.		1			report
Complete initial analysis of existing EPA databases solicit industry comment.		1			analysis

Promulgate Phase 1 of Waste Combustion Rule	30-Sep-1999		rule making	
Develop Phase II of the Waste Combustion Rule.		1		rule making
Promulgate a proposal for Phase II of the Waste Combustion Rule.			1	rulemaking

Baseline: The Phase I rule for reducing hazardous emissions of dioxins, furans, and particulate matter under RCRA was promulgated in 1999.

Municipal Solid Waste Facilities

In 2002 83% (180 for a cumulative total of 2,940 out of 3,536) of existing RCRA municipal solid waste facilities in states will have approved controls in place to prevent dangerous releases to air, soil, groundwater, and surface water.

In 2001 78% (160 for a cumulative total of 2,760 out of 3,536) of existing RCRA municipal solid waste facilities in states will have approved controls in place to prevent dangerous releases to air, soil, groundwater, and surface water.

In 2000 FY 2000 Data is not available for the percentage of existing RCRA municipal solid waste facilities in states will have approved controls in place (goal was 74%). A preliminary survey is under way and we anticipate that data will be available by September 2001.

In 1999 Data not available. This is not a mandatory reporting element for states, and EPA is currently negotiating with states and state associations to determine the best means to obtain the data. We anticipate data by the end of 2000.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Percent of municipal solid waste landfills (MSWLFs) with approved controls.	not avail.	Not Avail.	78%	83%	MSW landfills

Baseline: The current baseline of 3,536 was obtained in the 1996 Municipal Solid Waste Landfill Facility survey. A new survey which will account for the number of facilities with approved controls in place is underway and will be completed in October 2001.

RCRA Facility Standards and Compliance

In 2002 82 additional hazardous waste management facilities will have approved controls in place to prevent dangerous releases to air, soil, and groundwater, for a total of 71% of 2,750 facilities.

In 2001 82 additional hazardous waste management facilities will have approved controls in place to prevent dangerous releases to air, soil, and groundwater, for a total of 68% of 2,750 facilities.

In 2000 EPA exceeded its goal by establishing approved controls for 308 additional RCRA hazardous waste management facilities, for a cumulative total of 1,802 facilities or 62% of the 2,900 facility baseline.

In 1999 149 RCRA hazardous waste management facilities were determined to have permits or other controls in place.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
RCRA hazardous waste management facilities with permits or other approved controls in place.	149				facilities
Propose final streamlined permitting standards		0	1		rulemaking
Percent RCRA hazardous waste management facilities with permits or other approved controls in place.		62%	68%	71%	facilities
Promulgate final streamlined permitting standards.				1	rulemaking

Baseline: EPA established a baseline of approximately 2,750 facilities in October 2000.

Ensure WIPP Safety

In 2002 Certify that 6,000 55 gallon drums of radioactive waste (containing approximately 18,000 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
Number of 55-Gallon Drums of Radioactive Waste Disposed of According to EPA Standards				6,000	Drums

Baseline: The Waste Isolation Pilot Plant (WIPP) near Carlsbad, NM was opened in May 1999 to accept radioactive transuranic waste. By the end of FY 2001, approximately 7,000 (cumulative) 55 gallon drums will be safely disposed. In FY 2002, EPA expects that DOE will ship an additional 6,000 55 gallon drums of waste to WIPP so that 1.5 percent of the planned waste volume, based on disposal of 860,000 drums over the next 40 years, is permanently disposed of safely and according to EPA standards. Number of drums shipped to the WIPP facility on an annual basis is dependent on DOE priorities and funding. EPA volume estimates are based on projecting the average shipment volumes over 40 years with an initial start up.

Research

Scientifically Defensible Decisions for Active Management of Wastes

In 2001 Provide technical information to support RCRA regulatory development for waste identification, containment, and combustion.

In 2000 EPA provided targeted research and technical support for the active management of wastes by preparing nine provisional toxicity values from 38 feasibility assessments on 25 waste constituents. In addition, EPA published the journal article on factors that control Hg speciation in incinerators.

In 1999 Completed a report on the software modeling system for automating the Hazardous Waste Identification Rule (HWIR) assessment and completed a Beta-II version of this system.

Performance Measures:	FY 1999 Actuals	FY 2000 Actuals	FY 2001 Estimate	FY 2002 Request	
HWIR Human and Ecosystems Site (Generic) Exposure-Risk Assessment Screening Model, peer reviewed and applied to HWIR listed chemical exit levels	30-Sep-1999				
Beta version for comprehensive modeling system.		1			system
Develop provisional toxicity values for 10 - 20 waste constituents that do not have values describing their dose-response toxicological properties.		30-Sep-2000			values
Provide journal article on factors that control Hg speciation in incinerators			1		article
Update the HWIR99 modeling methodology for delisting hazardous wastes, in response to public comments on 1999 Federal Register Notice				1	update

Baseline: Both the Agency and the private sector have worked for at least a decade to reduce the volume of wastes to be managed and to reduce the risks of the related waste management systems. In recent years, research has focused on support to Agency initiatives on classifying wastes for their appropriate management and disposal (e.g., HWIR, de-listing, listing), to improve the ongoing requirement for risk assessments as part of Agency and stakeholder decision-making, and to reduce the uncertainties in risk management alternatives, particularly combustion. HWIR development is being extended to a wider universe of waste issues and combustion remains a priority, particularly for controlling hazardous emissions under different boiler operating conditions.

Verification and Validation of Performance Measures

Performance Measure: Percentage of USTs in compliance with the 1998 deadline; Percentage of USTs in compliance with the leak detection requirements.

Performance Database: The Office of Underground Storage Tanks (OUST) does not maintain a national database.

Data Source: Designated State agencies submit semi-annual progress reports to the EPA regional offices.

QA/QC Procedures: EPA regional offices verify and then forward the data to the OUST Headquarters. OUST Headquarters staff examine the data and resolve any discrepancies with the regional offices. The data are displayed on a region by region basis, which allows regional staff to verify their data.

Data Quality Review: None.

Data Limitations: Percentages reported are sometimes based on estimates and extrapolations from sample data and rely on accuracy and completeness of state records.

New/Improved Data or Systems: None.

Performance Measure: Percent of RCRA hazardous waste management facilities with permits or other approved controls in place.

Performance Measure: Percent of RCRA hazardous waste management facilities with permits or other approved controls in place.

Performance Database: The Resource Conservation Recovery Act Information System (RCRAInfo) is the national database which supports EPA's RCRA program. RCRAINFO contains information on entities (generically referred to as "handlers") engaged in hazardous waste (HW) generation and management activities regulated under the portion of RCRA that provides for regulation of hazardous waste. RCRAInfo has several different modules, including status of RCRA facilities in the RCRA permitting universe.

Data Source: EPA regions and authorized states enter data on a rolling basis.

QA/QC Procedures: States and Regions, who create the data, manage data quality control related to timeliness and accuracy (i.e. the environmental conditions and determinations are correctly reflected by the data). Within RCRAInfo the application software enforces structural controls which ensure that high-priority national components of the data are properly entered. RCRAInfo documentation, which is available to all users on-line, provides guidance to facilitate the creation and interpretation of data. Training on use of RCRAInfo is provided on a regular basis, usually annually, depending on the nature of systems changes and user needs.

Data Quality Review: GAO-1995 Report of EPA's Hazardous Waste Information System reviewed whether national RCRA information systems support meeting the primary objective of helping EPA and states manage the HW program. Recommendations coincide with ongoing internal efforts (WIN/Informed) to improve the definitions of data collected, ensure data collected provides critical information and minimize burden on states.

Data Limitations: None identified.

New/Improved Data or Systems: EPA has successfully implemented new tools for management of environmental information to support federal and state programs, replacing the old data systems (the Resource Conservation and Recovery Information System and the Biennial Reporting System) with RCRAInfo The RCRAInfo system allows for tracking of information on the regulated universe of RCRA hazardous waste handlers, and characterization of facility status, regulated activities, and compliance histories. The system also captures detailed data on the generation of hazardous waste from large quantity generators and on waste management practices from treatment, storage, and disposal facilities. RCRAInfo is web accessible, providing a convenient user

interface for Federal, state and local managers, encouraging development of in-house expertise for controlled cost, and sports the ability to use commercial off-the-shelf software to report directly from database tables.

The Agency has spent considerable time reviewing data associated with permitting at RCRA hazardous waste facilities. During 2000 the Agency finalized its facility universe baseline.

Performance Measure: Number of drums of radioactive waste disposed of according to EPA standards

Performance Data: Department of Energy Waste Isolation Pilot Plant (WIPP) Database

Data Source: Department of Energy

QA/QC Procedures: NA - Data is obtained from external source

Data Limitations: Database relies on the actual number of drums shipped by DOE and placed in the WIPP facility.

Before the waste can be shipped to the WIPP, EPA must approve the waste characterization controls at the waste generator facilities and quality assurance measures for waste identification activities. EPA conducts frequent independent inspections at waste generator sites to verify continued compliance with radioactive waste disposal standards. Since 1998, EPA has completed over 30 inspections at the DOE waste generator sites prior to shipment of waste to the WIPP facility. EPA conducts audits or inspections at waste generator sites to determine if DOE is properly tracking the waste to ensure that it adheres to specific waste component limits. EPA also inspects the WIPP facility to verify continued compliance with EPA's radioactive waste disposal standard.

Once EPA approves a waste generator site, the number of drums shipped to the WIPP facility on an annual basis is dependent on DOE priorities and funding. EPA volume estimates are based on projecting the average shipment volumes over 40 years with an initial start up.

New/Improved Data or Systems: None

Coordination with Other Agencies

State UST programs are key to achieving the objectives and long-term strategic goals. EPA relies on state agencies to implement the UST program, including developing core program capabilities and promoting and enforcing compliance with the UST requirements.

Because many agencies at all levels of government have authority to regulate and implement aspects of hazardous materials safety programs, coordination is essential for the success of EPA initiatives. On the chemical accident preparedness and prevention side, inter-agency coordination remains a critical factor in accomplishing the

goals of the Risk Management and EPCRA programs. The Agency's role in carrying out these initiatives is to provide leadership and support. EPA works in partnership with states and local governments and other organizations to promote actions to reduce risk. We also provide technical assistance and tools to states and LEPCs to better utilize the information on chemical hazards and risks available to them. In addition, through the rulemaking process, EPA works closely with our Federal partners (OSHA, DOT) and with states to ensure compatibility with existing accident preparedness and prevention initiatives. Close coordination and a cooperative working relationship is also required to effectively meet our responsibilities in the Chemical Safety program, most importantly where they involve the Chemical Safety Board (CSB). EPA has completed a memorandum of understanding with the CSB which further delineates this working relationship.

Under the Oil Spill program, EPA works with other Federal agencies such as the United States Fish & Wildlife Service, National Oceanographic and Atmospheric Administration, United States Coast Guard, Federal Emergency Management Agency, Department of the Interior, Department of Transportation, Department of Energy, and other Federal agencies and States, as well as with local government authorities to develop area contingency plans. The Department of Justice also provides assistance to agencies with judicial referrals when enforcement of violations becomes necessary. EPA and the United States Coast Guard work in coordination with other Federal authorities to implement the National Preparedness for Response program.

The Agency maintains a close partnership with state agencies to implement the RCRA Permitting and Municipal Solid Waste (MSW) landfill programs. States are to achieve the same level of protection as the Agency, including the annual performance goals of controls at hazardous waste facilities and MSW landfills. Regional offices negotiate with the state agencies regarding goals and performance achieved with the grant funds. For examples, Regions may negotiate with the state agencies the number of facilities that are permitted in a year resulting in approved controls in place at facilities. The Agency will continue our partnership effort with state agencies by providing technical assistance and guidance on implementing permitting and MSW Landfill programs.

The Agency works with tribes to ensure compliance under RCRA on Indian lands. Regional RCRA tribal teams are partnering with the Indian Health Service (IHS) and the Bureau of Indian Affairs (BIA) to address open dump issues on tribal lands. In states where partnership with these Federal agencies have not been well established, Regional offices establish interagency workgroups. Workgroup representatives from other Federal agencies will coordinate tasks based on the field of expertise within each agency which will allow for efficient completion of the open dump initiative without overlapping efforts.

Research

Multimedia, multipathway, multi-chemical, and other multi-receptor model development for the HWIR continues to be a highly effective interagency team effort between EPA and the Department of Defense (DOD) and the Nuclear Regulatory Commission (NRC). An example of this collaboration is the joint effort to support the 3MRA methodology. The Agency also does work in support of HWIR with the Department of Energy (DOE).

To develop waste classification criteria based on protecting human health and the environment, the EPA supported the modification of software developed by DOE's Pacific Northwest National Laboratory (PNNL) to create a comprehensive environmental exposure and risk analysis software system. The PNNL modified its Framework for Risk Analysis in Multimedia Environmental System (FRAMES), under the direction of EPA, to produce the FRAMES-HWIR Technology software system. EPA is also coordinating some of its hazardous waste combustion and non-combustion treatment research with DOE.

Other outside elements of cooperation are taking place with respect to waste management issues. Within EPA, the Office of Reinvention has worked extensively with bioreactor technology through the XL Program, in cooperation with States and private industry. The Interstate Technical Regulatory Cooperation (ITRC) has also proved a good forum for coordinating Federal and State activities, and for defining continuing research needs.

Statutory Authorities

- Solid Waste Disposal Act as amended by the Hazardous and Solid Waste Amendments of 1984.
- Title III (Emergency Planning and Community Right-to-Know Act) of CERCLA, as amended by Superfund Amendments and Reauthorization Act (SARA) of 1986
- Clean Air Act Section 112
- Waste Isolation Pilot Plant Land Withdrawal Act of 1992, P.L. 102-579
- Nuclear Waste Policy Act of 1982, P.L. 97-425
- Energy Policy Act of 1992, P.L. 102-486
- Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. (1970), and Reorganization Plan #3 of 1970
- Uranium Mill Tailings Radiation Land Withdrawal Act of 1978
- Public Health Service Act, as amended, 42 U.S.C. 201 *et seq.*
- Chemical Safety Information, Site Security and Fuels Regulatory Release Act, 1999.
- Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, 42 U.S.C. 5121 et seq.
- Executive Order 12241 of September 1980, National Contingency Plan, 3 CFR, 1980
- Executive Order 12656 of November 1988, Assignment of Emergency Preparedness Responsibilities, 3 CFR, 1988

C Oil Pollution Act (OPA), 33 U.S.C. 2701 *et seq*..

C Clean Water Act (CWA), Section 311.

C Safe Drinking Water Act, 42 U.S.C. 300F et seq. (1974)

C Clean Air Act Section 112

Research

C Solid Waste Disposal Act (SWDA)

C Resource Conservation and Recovery Act (RCRA)

- Hazardous and Solid Waste Amendments (HSWA)
- The Clean Air Act Amendments (CAA)