

**Environmental Protection Agency**  
**2004 Annual Performance Plan and Congressional Justification**  
**Table of Contents**

---

<b>Goal 5: Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response</b> .....	V-1
Control Risks from Contaminated Sites and Respond to Emergencies .....	V-14
Regulate Facilities to Prevent Releases .....	V-74

## Environmental Protection Agency

### FY 2004 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)

	<b>FY 2002 Actuals</b>	<b>FY 2003 Pres. Bud.</b>	<b>FY 2004 Request</b>	<b>FY 2004 Req. v. FY 2003 Pres Bud</b>
Better Waste Management, Restoration of Contaminated Waste Sites, and Emergency Response	\$1,786,516.4	\$1,711,511.0	\$1,846,634.7	\$135,123.7
Control Risks from Contaminated Sites and Respond to Emergencies	\$1,621,875.2	\$1,544,249.8	\$1,678,154.8	\$133,905.0
Regulate Facilities to Prevent Releases	\$164,641.2	\$167,261.2	\$168,479.9	\$1,218.7
Total Workyears	4,325.4	4,500.2	4,556.6	56.4

#### Background and Context

Improper management of wastes can lead to serious health threats from exposure to contaminated 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 people and the environment from unacceptable risk posed by improper waste management. In FY 2004, EPA will continue to promote safe waste storage, treatment, and disposal, cleanup active and inactive waste disposal sites, and help prevent the release of oil and chemicals, including radioactive waste, into the environment. Additionally, the Brownfields program, a top environmental priority for this Administration, will continue to sustain and develop effective partnerships with States, Tribes, and localities in order to revitalize and restore Brownfields properties. The Agency will also continue to prepare to respond to small and large-scale disasters, one of EPA's traditional responsibilities.

## 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 cleanup and prevention 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 a common interest to protect our health and the environment, EPA and its partners have established an effective structure to manage the nation's hazardous and solid wastes. 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 risks to people from hazardous waste exposure.

In FY 2004, EPA will maintain its focus on three themes in achieving its objectives:

- **Revitalization:** The Agency is moving in a new strategic direction with the broad promotion of the successes of the Brownfields program and other waste programs in restoring contaminated lands. Revitalization complements the Agency's traditional cleanup programs, leading to faster, more efficient cleanups; and benefits communities through productive economic and green space reuse of properties.
- **One Cleanup Program:** Through the "One Cleanup Program" the Agency is looking across its programs to bring consistency and enhanced effectiveness to site cleanups. The Agency will work with its partners and stakeholders to enhance coordination, planning and communication across the full range of Federal, state, Tribal and local cleanup programs. This effort will improve the pace, efficiency and effectiveness of site cleanups, as well as more fully integrate land reuse and continued use into cleanup programs. The Agency will promote development of information technologies required to present waste site cleanup and revitalization information in ways that enable greater access and understanding by the public and stakeholders. Finally, the Agency will develop environmental outcome performance measures that report progress among all cleanup programs, such as the number of acres available for reuse resulting from its site cleanup programs. A crucial element to this effort is a national dialogue, currently underway, on the future of Superfund and other EPA waste cleanup programs.
- **Recycling, Waste Minimization and Energy Recovery:** Promotion of recycling, waste minimization and energy recovery for both hazardous and non-hazardous wastes.

### Revitalization

To address the theme of revitalization, EPA is requesting \$210,754,100 to continue implementation of the Small Business Liability Relief and Brownfields Revitalization and Environmental Restoration Act (Public Law 107-118). This includes an increase of \$10 million to provide assistance to states and Tribes to develop and enhance their state and Tribal response programs, a priority in the Agency's efforts to reuse and redevelop properties. Brownfields are

real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant and they are not traditional Superfund sites. Generally, Brownfields are not highly contaminated and, therefore, present lesser health risks. Economic changes over several decades have left thousands of communities with these contaminated properties and abandoned sites. This legislation promotes Brownfield redevelopment by providing financial assistance for assessment and cleanup, reforming Superfund liability, and enhancing state response programs. EPA implements the Brownfields program with other Federal agencies, states, Tribes, local governments, the private sector and non-profit organizations.

EPA is committed to integrating the concept of revitalization and reuse into the process of cleaning up abandoned, inactive and contaminated waste sites, active and closing Federal facilities, and other properties. An essential element of the assessment and cleanup of contaminated property, whether they are Brownfields, Superfund, RCRA Corrective Action, Base Realignment and Closure, Federal facilities or Underground Storage Tanks, is the ultimate goal of revitalizing and reusing that property. Assessment and cleanup provide clear environmental benefits in mitigating exposure to hazardous contaminants and reuse of these properties can improve the quality of life in America's communities and reduce sprawl. Building upon the Agency's recent successes in this area, EPA's waste cleanup programs will actively seek out opportunities to leverage public or private investment, create jobs associated with cleanup and reuse, and increase the overall acreage reused. The RCRA corrective action program continues to emphasize redevelopment of RCRA corrective action sites to prevent these properties from becoming brownfields (unused or underused property due to real or perceived concerns regarding hazardous waste contamination).

### Superfund

The Superfund program 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 nearby communities. Many of the nation's largest and most technically complex contaminated properties including abandoned, private, and Federal facilities are cleaned up by the Superfund program. 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. When a site is placed on the NPL it becomes eligible for a fund-financed cleanup. The Agency also provides outreach and education to the surrounding communities to improve their understanding of potential site risks, such as risks posed by radioactive materials, and to promote direct involvement in every phase of the cleanup process.

The Administration has conducted a Program Assessment Rating Tool (PART) evaluation of the Superfund removal program. While the program initiates and cleans up numerous sites around the country every year, the benefit to human health and the environment could not be clearly measured. EPA and the Office of Management and Budget (OMB) will continue to develop outcome measures that test the link between the activities of the program and their impact on human health and the environment.

## RCRA Corrective Action

The RCRA corrective action program addresses a significant number of industrial sites, including Federally-owned facilities. 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 because people or ecosystems are likely to be at significant current or future risk. As evidence of success in meeting this challenge, EPA and the states have now documented that both exposure to contamination and further migration of contaminated groundwater have been controlled at over 700 of the 1,700 high priority facilities. The RCRA program has fully embraced the Agency's One Cleanup Program initiative designed to improve cross-program coordination between EPA and states to make protective cleanup and revitalization of contaminated sites more effective and efficient.

## Underground Storage Tanks

In partnership with the states, the Agency prevents releases, detects releases early in the event that they occur, and addresses leaks from Federally regulated underground storage tanks (USTs) containing petroleum and hazardous substances. The strategy for preventing, detecting releases, and addressing leaks is to promote and enforce petroleum management controls through compliance and technical assistance with the regulatory requirements in order to protect our nation's groundwater and drinking water. In 2004, the Agency will celebrate the 20th anniversary of the enactment of RCRA Subtitle I, acknowledging the problem of leaking underground storage tanks and the beginning of the Federal UST program. While the vast majority of the approximately 698,000 active USTs have the proper equipment per Federal regulation, significant work remains to be done to ensure UST owners and operators properly maintain and operate their systems. The Agency's primary role is to work with states to promote compliance with the leak detection, spill, overflow, and corrosion protection requirements, ensure that compliance with these requirements are a national priority, and reduce the number of confirmed UST releases. This encompasses compliance for all Federally regulated UST systems, including those on private and public property, in Indian Country, and Federal facilities. The Agency has primary responsibility for implementing the UST program in Indian Country.

The Leaking Underground Storage Tank (LUST) program will continue to work with the states and the regulated community to promote rapid and effective responses to releases from USTs containing petroleum. EPA plays a key role in implementing the national LUST program, supporting the management of state, local, and Tribal enforcement and response capability, as well as sharing lessons learned with state regulators and the regulated community to increase cleanup accomplishments. The Agency's highest priority in the LUST program over the next several years is to address approximately 143,000 cleanups that have yet to be completed. EPA's LUST program will accomplish this by implementing innovative approaches to corrective action, such as multi-site cleanup agreements and performance-based contracting. The LUST program will continue to help states address fuel oxygenates, such as methyl-tertiary-butyl-ether (MTBE) contamination and tertiary butyl alcohol (TBA). States are discovering these contaminants increasingly, and are concerned about the unique and often difficult remediation

challenges. The Agency will also continue to work with other Federal partners and states to help communities set priorities for addressing petroleum high priority sites.

In an effort to make every environmental dollar count, the Administration has conducted a PART evaluation of the LUST program. The tool showed that EPA was quickly cleaning up the backlog of leaking tanks, but that the benefit to human health and the environment could not be clearly measured. Just as with the Superfund program, EPA and OMB will continue to develop outcome measures that test the link between the activities of the program and their impact on human health and the environment.

### Recycling, Waste Minimization, and Energy Recovery

In support of the recycling, waste minimization, and energy recovery theme, the RCRA program will focus on minimizing risk by advancing the nation's ability to manage materials and waste in an environmentally sound and cost-effective manner. The fundamental goal of RCRA is the recovery and conservation of energy and materials that would otherwise be discarded. However, industrial secondary materials largely remain untapped resources for such recovery. In 2004, the Resource Conservation Challenge (RCC) will provide greater regulatory flexibility and promote opportunities for converting waste to future energy and focus on resource conservation through efficient materials management. EPA will continue its comprehensive review of its waste management programs and regulations regarding hazardous and non-hazardous waste recycling, waste minimization, and energy recovery practices. The review will identify opportunities to further the goal of resource conservation and recovery, while remaining true to the mission of ensuring safe and protective waste management practices. These efforts will include increased beneficial use of the over 100 million tons of coal combustion residues produced each year - saving resources and reducing green house gas emissions. The Agency will also be looking to obtain energy from wastes through a variety of mechanisms: gas generation at bioreactor municipal landfills, waste gasification, and co-firing of wastes in power generation units. In addition, the Agency will partner with industry to identify innovative methods for recovering petroleum and reducing waste in the refinery industry.

Other elements of the Better Waste Management goal are associated with the promotion of safe waste management practices, which serve to help avoid future cleanup and redevelopment burdens. For facilities that currently manage hazardous wastes, EPA and the authorized states help ensure human health and environmental protection through the issuance of RCRA hazardous waste permits. The RCRA program works primarily through state partners to reduce the risks of exposures to dangerous hazardous wastes by maintaining a "cradle-to-grave" waste management framework. Under this framework, EPA and the states oversee the handling, transport, treatment, storage, and disposal of hazardous waste. To date, 48 states, Guam, and the District of Columbia are authorized to issue permits.

In FY 2004, EPA will continue efforts to reassess hazardous waste regulations applicable to priority sectors and processes, such as process wastewater and other waste treatment residues. The goals will be to determine if current hazardous waste listings provide the correct level of protection and whether less costly, more efficient management approaches that provide equivalent protection of human health and the environment exist.

## Chemical Emergency Preparedness and Prevention

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 15,000 facilities to develop comprehensive risk management plans (RMPs) and submit them to EPA, state agencies, and Local Emergency Planning Committees. States are best suited to implement the RMP program because they benefit directly from its success.

## Oil Spill Program

The Oil Spill Program prevents, prepares for, responds to, and monitors oil spills as mandated and authorized in the Clean Water Act and Oil Pollution Act of 1990. EPA protects U.S. waterways through oil spill prevention, preparedness, and enforcement compliance. There are 465,000 non-transportation-related oil storage facilities that EPA regulates. When necessary, the Agency undertakes oil spill response in the inland zone, which is then funded through a reimbursable agreement with the U.S. Coast Guard.

## Tribes and Alaska Native Villages

Finally, the Agency has established performance objectives specific to Indian Tribes and Alaska Native Villages. These objectives stress waste prevention and cleanup and assistance to Tribes. To meet these objectives, 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.

## Homeland Security

Responding to small and large-scale disasters is one of EPA's traditional responsibilities. The Agency's crucial role in responding to the World Trade Center and Pentagon attacks, and the decontamination of anthrax at Capitol Hill, have further defined the nation's expectations of EPA's emergency response capabilities. The Agency will continue to play a unique role in responding to and preparing for future terrorist incidents, which could possibly be more devastating in scale and nature than those of September 11, 2001. Potential future terrorist events could affect the lives of millions of Americans and devastate the economy. The FY 2004 President's Budget includes targeted investments to strengthen the Agency's readiness and response capabilities, including the establishment of a "decontamination team," state-of-the-art equipment and highly specialized training for On Scene Coordinators (OSCs).

## Research

The FY 2004 waste 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 CERCLA.

The Agency will conduct research to: 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; 3) develop more reliable technologies for cleanup of contaminated soils, groundwater, and sediments; and 4) determine the effects of contaminants on the environment. In addition, EPA will conduct research as well as provide guidance and technical support for Federal, state and local governments and other institutions in the area of building decontamination.

Waste identification, waste management, and combustion constitute the three major areas of research under Resource Conservation and Recovery Act (RCRA) in FY 2004, 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 de-listing process. These efforts could significantly reduce compliance costs while still supporting EPA's mission 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 emissions from bioreactors and industrial combustion systems.

Several mechanisms are in place to ensure a high-quality waste research program at EPA. The Research Strategies Advisory Committee (RSAC) of EPA's Science Advisory Board (SAB), an independent chartered Federal Advisory Committee Act (FACA) committee, meets annually to conduct an indepth review and analysis of EPA's Science and Technology account. The RSAC provides its findings to the House Science Committee and sends a written report on the findings to EPA's Administrator after every annual review. Moreover, EPA's Board of Scientific Counselors (BOSC) provides counsel to the Assistant Administrator for the Office of Research and Development (ORD) on the operation of ORD's research program. Also, under the Science to Achieve Results (STAR) program all research projects are selected for funding through a rigorous competitive external peer review process designed to ensure that only the highest quality efforts receive funding support. Our scientific and technical work products must also undergo either internal or external peer review, with major or significant products requiring external peer review. The Agency's Peer Review Handbook (2<sup>nd</sup> Edition) codifies procedures and guidance for conducting peer review.

### **Strategic Objectives**

- Control Risks from Contaminated Sites and Respond to Emergencies
- Regulate Facilities to Prevent Releases



## Highlights

In FY 2004, EPA and state cleanup actions will help 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:

- conducted over 7,300 removal response actions from 1982 through December 29, 2002;
- completed clean up construction at 846 Superfund National Priorities List Sites through December 29, 2002;
- over 800 of approximately 1,700 high priority RCRA sites targeted for aggressive risk reduction have met GPR Environmental Indicator goals;
- 79% of approximately 2,750 hazardous waste management facilities have effective controls in place;
- responded to or monitored 300 oil spills in a typical year;
- completed 284,602 cleanups of confirmed releases from Federally-regulated leaking underground storage tanks since 1987;
- assessed over 44,400 potential Superfund sites through December 29, 2002;
- removed more than 33,100 sites from the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) waste site list;
- secured approximately \$20.6 billion in PRP commitments, through response and cost recovery settlements, over the life of the Superfund program;
- resolved potential liability of 27,000 small volume waste contributing parties through more than 500 de minimis settlements;
- awarded 50 UST field pilots to states and/or tribes through cooperative agreements to assess and cleanup abandoned or underutilized Federally-regulated leaking underground storage tanks to prepare these sites for subsequent revitalization.
- five ongoing RCRA Brownfields Prevention Pilots; and
- awarded 437 Brownfields assessment grants, over 143 Brownfields cleanup revolving loan fund grants, and 57 job training grants through December 2002.

In FY 2004, EPA's goal is to complete construction at 40 private and Federal Superfund sites and take action to address contamination at 350 sites using removal authorities. In addition, EPA and its partners will make final site assessment decisions on 475 additional sites.

EPA is requesting a funding increase of \$150 million for Superfund cleanup construction. These resources will allow cleanup construction to begin at 10 to 15 additional sites that otherwise would not be funded. Priority for funding will be given to projects at sites where actual or potential human exposures to contaminants are not controlled, and at sites where EPA can achieve construction completion during FY 2005 and 2006.

In FY 2004, the Superfund redevelopment initiative will facilitate the return of additional Superfund sites to productive reuse. To date over 330 Superfund sites have been recycled for numerous purposes. At these sites, more than 60,000 acres are now in ecological or recreational use. Approximately 15,500 jobs, representing approximately \$500 million in annual income, are located at sites that have been recycled for commercial use.

Through the Federal Oil Spill Program, EPA will continue to prevent, respond to, and monitor oil spills that occur in the waters of the United States and adjoining shorelines. Over 24,000 spills are reported annually while approximately half are in the inland zone, which is under EPA's jurisdiction. EPA typically responds to and monitors the work of responsible parties at approximately 300 significant 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 and monitor spills when necessary.

EPA played a crucial role in response to the terrorist attacks of September 11, 2001, particularly, through its emergency response program. In FY 2004, the Agency will improve its ability to respond effectively to terrorist-related chemical, biological, and radiological incidents. These enhancements will be achieved through continued improvement of national coordination and decision-making for large-scale incidents; improved field response capabilities in EPA Regions through better-trained responders and improved specialized equipment; improved capabilities of National Response System (NRS) special forces such as the Environmental Response Team (ERT) and the National Decontamination ("Decon") Team; and improved coordination with and enhancement of other response agencies.

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 continues to make steady progress in this area and in FY 2004, it will delegate the program to eight additional states for a cumulative total of twenty. 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.

The EPA Brownfields program coordinates a Federal, state, Tribal, and local government approach to assist in addressing environmental site assessment and cleanup. In FY 2004 the Brownfields program will provide \$29 million in funding and technical support for 126

assessments. These assessments provide states (including U.S. territories), political subdivisions (including cities, towns, and counties), and Federally recognized Tribes with necessary tools, information, and strategies for promoting a unified approach to environmental site assessment, characterization, and redevelopment. In addition, the Agency and its Federal partners will continue to support the existing 28 showcase communities 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. The Agency will continue to provide technology support to localities, states and Tribes to ensure that the most efficient and effective technologies are used for Brownfields site assessment, cleanup, and monitoring.

EPA will use approximately \$30.3 million for the assessment and cleanup of abandoned underground storage tanks (USTs) and other petroleum contamination found on Brownfields properties. With these funds, EPA will support assessment and cleanup of petroleum contamination in 50 Brownfields communities.

To further enhance a community's capacity to respond to Brownfields redevelopment, the Agency will also provide \$41.5 million in funding to capitalize Brownfields Cleanup Revolving Loan Funds (BCRLF) and cleanup grants for 70 communities. All communities with Brownfields properties are eligible to apply.

The Agency will also provide \$60 million for states and Indian Tribes to establish or enhance their voluntary response programs. Legislation also permits the recipients to capitalize revolving loan funds, purchase insurance or develop risk sharing pools, or indemnity pools, under state response program.

To augment the communities' capacities to clean up Brownfields sites, EPA will fund 12 job training grants for community residents and will provide \$3 million to the National Institute of Environmental Health Sciences (NIEHS) to supplement its minority worker training programs that focus on Brownfields workforce development activities. This will result in a cumulative total of 79 job-training grants, resulting in the training of almost 1,200 participants since 1998 and an annual average of 65% job placement.

In addition, EPA will continue to explore connections between RCRA low-priority corrective action efforts and cleanup of brownfields properties.

In FY 2004, 180 additional high priority RCRA facilities will have current human exposures under control and 150 additional high priority RCRA facilities will have migration of contaminated groundwater under control. To achieve these environmental indicators, the Agency has improved the pace of cleanups by carrying out a series of administrative reforms including piloting innovative approaches, connecting communities to cleanups and reducing delays in the review of cleanup workplans. The reforms successfully established an environment for program implementers to be innovative and results-oriented by promoting faster, focused, more flexible cleanups. 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.

In FY 2004, the RCRA hazardous waste permits program will have permits or other approved controls in place for 79% of the hazardous waste management facilities (out of a baseline of approximately 2,750 facilities). Securing approved controls in place at facilities minimizes 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. In addition, the program is in the early stages of developing an electronic media component, which would complement the proposed standardized permit process. E-permitting will expedite and simplify the permitting process and provide better public access to permitting information.

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. In 2001 the D.C. Circuit Court of Appeals vacated the Phase I MACT standards. In response to this action, EPA agreed to issue replacement standards for the Phase I facilities by June 14, 2005. In addition, in a separate action, EPA agreed to finalize emission standards for the Phase II facilities (hazardous waste burning boilers and hydrochloric acid production furnaces) by the same date.

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

The ability of EPA's LUST program to meet cleanup performance goals has become more difficult because states are overseeing the cleanup of more complicated sites. Methyl-tertiary-butyl-ether (MTBE) contamination of releases from Federally regulated underground storage tanks is a significant contributor to hindering the completion of LUST cleanups. For example, MTBE contamination has already closed down public water systems, complicating and retarding the cleanup of LUST sites in Santa Monica, California; Long Island, New York; Pascoag, Rhode Island; and Hopkins, South Carolina. EPA has provided technical and financial support to these sites in order to identify lessons learned that could be used at other MTBE contaminated sites nationwide.

In FY 2004, the Agency will continue to provide funds to states for pilots to address the cleanup of complicated sites (e.g., those contaminated with MTBE or other oxygenates). To date, the Agency's criteria for providing funding has included the risk posed, the need, and the extent of the problem. The existing pilots were chosen because they have multiple sources and widespread contamination, are complicated to remediate; have affected entire community drinking water supplies, and the lessons learned will help other states nationwide. Sites contaminated with MTBE are often more complicated, difficult, time-consuming, and expensive to assess and remediate than sites contaminated only with petroleum hydrocarbons. Reasons for this include:

- MTBE typically creates longer plumes than petroleum hydrocarbons, they typically "dive" beneath the water table;
- MTBE is less amenable to conventional remediation/treatment technologies used for petroleum hydrocarbons because multiple technologies often must be combined and regular operation and maintenance conducted more frequently;
- MTBE plumes are resistant to biodegradation in most subsurface environments which can significantly extend remediation timeframes and may force the use of more expensive remediation/treatment technologies;
- In many instances, MTBE plumes aren't discovered until a drinking water supply has been impacted. Often alternate water supplies are necessary (which are expensive) and remediation/treatment is more expensive and time-consuming because the contaminated area is so large; and
- Degradation products of MTBE (e.g., TBA, and TBF) are themselves toxic and must be remediated/treated as well.

The Agency aims to promote LUST cleanups and reduce the backlog of 143,000 releases for which cleanups have not been completed. The Agency will continue to perform its oversight responsibilities, strengthen partnerships among stakeholders, and provide technical assistance and training to improve and expedite corrective action at LUST sites. The Agency will also identify and foster the implementation of innovative approaches, such as multi-site cleanup agreements and performance-based contracting to achieve its LUST program objectives. UST owners and operators undertake nearly all cleanups under the supervision of state or local agencies. The Agency oversees these activities in Indian Country. Better oversight and quicker action can reduce the costs of cleaning up MTBE contamination, which can cost up to 100% more than a cleanup involving the typical gasoline contaminants. In turn fewer communities and individuals, including those in Indian Country, will lose their drinking water supplies.

### Research

In FY 2004, contaminated sites research will be conducted to: 1) reduce uncertainties associated with soil/groundwater sampling and analysis; 2) reduce the time and cost associated with site characterization and site remediation activities; 3) evaluate the magnitude of the risks posed by contaminants to human health and the ecosystem as well as the contributions of multiple exposure pathways, the bioavailability of absorbed contaminants and treatment residuals, and the toxicological properties of contaminant mixtures; and 4) develop and demonstrate more effective and less costly remediation technologies involving complex sites and hard-to-treat wastes. The Superfund Innovative Technology Evaluation (SITE) program fosters the development and use of lower cost and more effective characterization and monitoring technologies and risk management remediation technologies for sediments, soils, and groundwater. Other proposed work will enhance and accelerate current contaminated sediments research efforts, providing the data needed to make and support crucial decisions on high impact and high visibility sites.

Waste management research in FY 2004 will work to advance the multimedia modeling and uncertainty/sensitivity analyses methodologies that support core RCRA program needs as well as emerging RCRA needs in resource conservation. Additionally, waste management research will be conducted to improve the management of both solid and hazardous wastes. New research on ground-water surface-water (gw/sw) interactions will also be initiated in FY 2004.

## **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 to a limited extent 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 the 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 release prevention and cleanup goals 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 implementers 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. The Agency will build upon its commitment to provide states and Tribes with technical support and incentives to meet national LUST cleanup targets. Technical support and incentives range from promoting multi-site cleanup agreements, conducting MTBE cleanup pilots, developing a MTBE clearinghouse, and providing other tools, such as performance-based contracting, to help states and Tribes achieve faster, less expensive, and more effective LUST cleanups.

For the risk management program, the Agency recognizes that accident prevention and preparedness are inherently local activities. To succeed, the program relies upon the commitment and accomplishments of the various stakeholders, including industry and State and local governments. EPA's success under the RMP will depend upon the willingness and ability of stakeholders to deliver on the commitments and obligations in their plans.

## Environmental Protection Agency

### FY 2004 Annual Performance Plan and Congressional Justification

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

**Objective:** 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 brownfield 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)

	<b>FY 2002 Actuals</b>	<b>FY 2003 Pres. Bud.</b>	<b>FY 2004 Request</b>	<b>FY 2004 Req. v. FY 2003 Pres Bud</b>
Control Risks from Contaminated Sites and Respond to Emergencies	\$1,621,875.2	\$1,544,249.8	\$1,678,154.8	\$133,905.0
Environmental Program & Management	\$63,576.3	\$90,696.0	\$94,193.0	\$3,497.0
Hazardous Substance Superfund	\$1,435,160.2	\$1,166,199.3	\$1,290,677.9	\$124,478.6
Leaking Underground Storage Tanks	\$75,320.9	\$70,100.2	\$70,450.7	\$350.5
Oil Spill Response	\$907.0	\$909.9	\$915.0	\$5.1
Science & Technology	\$11,821.6	\$5,931.3	\$9,468.7	\$3,537.4
State and Tribal Assistance Grants	\$35,089.2	\$210,413.1	\$212,449.5	\$2,036.4
Total Workyears	3,570.5	3,699.8	3,765.0	65.2

**Key Program**  
(Dollars in Thousands)

	<b>FY 2002 Enacted</b>	<b>FY 2003 Pres. Bud.</b>	<b>FY 2004 Request</b>	<b>FY 2004 Req. v. FY 2003 Pres Bud</b>
Assessments	\$76,472.9	\$76,236.3	\$77,066.8	\$830.5
Brownfields	\$97,632.7	\$200,000.0	\$210,754.1	\$10,754.1
Capacity Building	\$725.1	\$652.6	\$0.0	(\$652.6)
Civil Enforcement	\$612.2	\$582.1	\$575.4	(\$6.7)
Compliance Assistance and Centers	\$670.0	\$689.8	\$586.5	(\$103.3)
Congressionally Mandated Projects	\$8,815.0	\$0.0	\$0.0	\$0.0
Disaster Management Initiative	\$0.0	\$0.0	\$1,500.0	\$1,500.0
Facilities Infrastructure and Operations	\$51,634.9	\$45,816.0	\$46,606.2	\$790.2
Federal Facilities	\$31,206.5	\$31,915.5	\$32,744.2	\$828.7
Federal Facility IAGs	\$8,779.8	\$9,091.7	\$9,653.6	\$561.9
Federal Preparedness	\$9,849.3	\$9,883.0	\$10,105.1	\$222.1
Hazardous Substance Research:Hazardous Substance Research Centers	\$4,576.8	\$4,599.2	\$4,603.5	\$4.3
Hazardous Substance Research: Superfund Innovative Technology Evaluation (SITE)	\$6,501.0	\$6,545.0	\$6,572.6	\$27.6
Homeland Security-Critical Infrastructure Protection	\$320.0	\$0.0	\$0.0	\$0.0
Homeland Security-Preparedness, Response and Recovery	\$43,105.4	\$85,710.4	\$38,197.3	(\$47,513.1)
Homeland Security-Protect EPA Personnel/Infrastructure	\$180.0	\$600.0	\$600.0	\$0.0
Homestake Mine	\$0.0	\$8,000.0	\$0.0	(\$8,000.0)
LUST Cleanup Programs	\$10,067.4	\$10,285.4	\$10,581.0	\$295.6
Leaking Underground Storage Tanks (LUST)Cooperative Agreements	\$59,331.9	\$58,341.2	\$58,399.1	\$57.9
Legal Services	\$4,610.7	\$5,077.4	\$5,219.5	\$142.1
Management Services and	\$28,131.8	\$29,308.4	\$30,807.5	\$1,499.1



	<b>FY 2002 Enacted</b>	<b>FY 2003 Pres. Bud.</b>	<b>FY 2004 Request</b>	<b>FY 2004 Req. v. FY 2003 Pres Bud</b>
Stewardship				
Other Federal Agency Superfund Support	\$10,676.0	\$10,676.0	\$10,676.0	\$0.0
Planning and Resource Management	\$0.0	\$0.0	\$5,000.7	\$5,000.7
RCRA Corrective Action	\$38,262.3	\$38,965.2	\$41,107.4	\$2,142.2
RCRA State Grants	\$31,913.1	\$31,913.1	\$31,949.5	\$36.4
Radiation	\$14,623.5	\$14,899.8	\$16,544.6	\$1,644.8
Regional Management	\$1,467.0	\$1,452.5	\$3,105.9	\$1,653.4
Research to Support Contaminated Sites	\$29,896.9	\$28,121.1	\$28,275.3	\$154.2
Superfund - Cost Recovery	\$29,597.5	\$30,375.9	\$31,058.6	\$682.7
Superfund - Justice Support	\$28,150.0	\$28,150.0	\$28,150.0	\$0.0
Superfund - Maximize PRP Involvement (including reforms)	\$82,181.5	\$84,396.9	\$89,471.3	\$5,074.4
Superfund Remedial Actions	\$484,659.8	\$489,355.0	\$645,053.6	\$155,698.6
Superfund Removal Actions	\$202,654.0	\$202,610.3	\$203,189.5	\$579.2

## **FY 2004 Request**

### Leaking Underground Storage Tanks

In partnership with states and Tribes, the goal of the Leaking Underground Storage Tank (LUST) program is to promote better, faster, and less expensive cleanups while encouraging those states and communities plagued with high priority LUST sites to return those properties to productive and appropriate reuse. The LUST program addresses the threat to groundwater from Federally regulated leaking underground storage tanks that contain petroleum or hazardous substances. Underground Storage Tank (UST) owners and operators undertake nearly all corrective actions under the supervision of state or local agencies. The Agency oversees these activities in Indian Country.

In FY 2004, the Agency's goal is to complete 21,000 cleanups under the supervision of EPA and its state, local and Tribal partners. The Agency will also continue to encourage the return of Federally regulated, high priority LUST sites to productive reuse. The LUST program requires that UST owners and operators take appropriate measures to clean up releases. In recent years, contamination from oxygenates, such as the petroleum additive methyl tertiary butyl ether (MTBE), has posed unique and significant challenges for the LUST Program. In FY 2004, the Agency plans to continue to assess the impact of MTBE and other oxygenates' contamination on

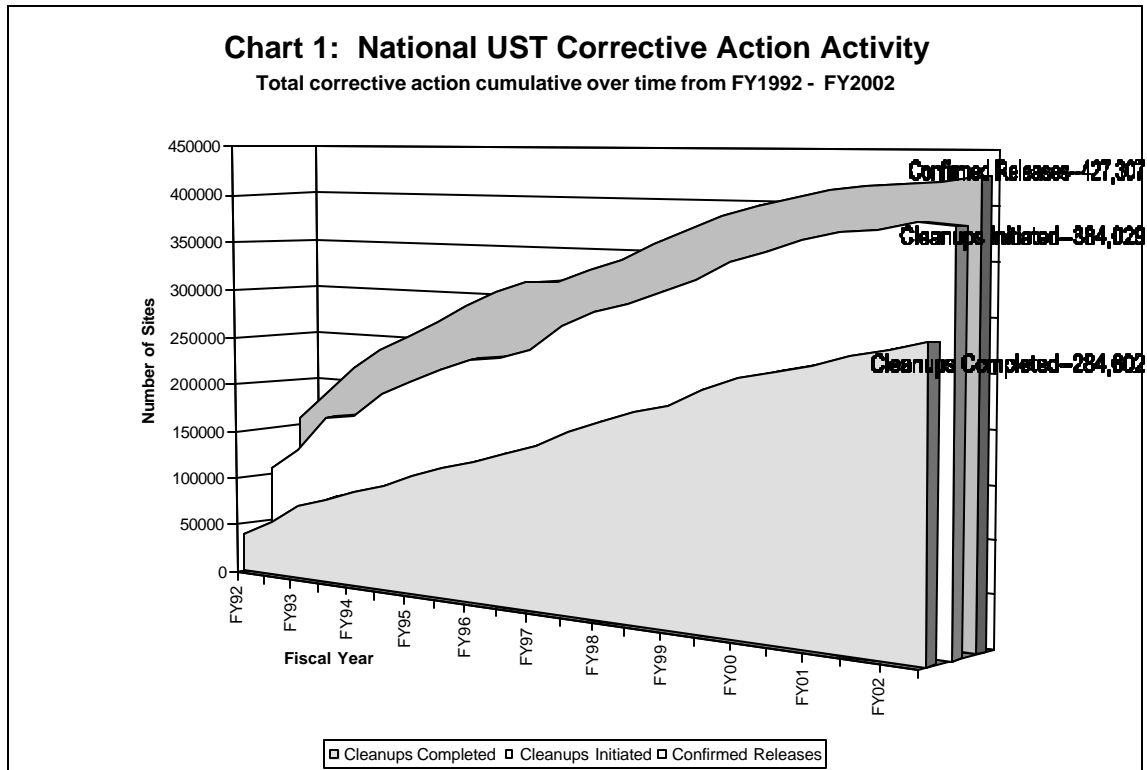
the cost and duration of cleanup efforts. This assessment will enable the Agency to more effectively address the complex nature of groundwater and MTBE contamination cleanup efforts.

One of the Agency's highest priorities in the LUST program over the next several years is to address approximately 143,000 cleanups that have yet to be completed. A vast number of these releases are contaminated with fuel oxygenates, such as tertiary butyl alcohol (TBA) and MTBE which, if not addressed rapidly, move quickly through soil and can easily contaminate groundwater and drinking water. For example, the growing problem with MTBE contamination closed down public water systems in Santa Monica, California; Long Island, New York; Pascoag, Rhode Island; and Hopkins, South Carolina. MTBE contamination is also a serious concern in Indian Country where there is more reliance on groundwater as a source for drinking water. Many cleanups, which involve groundwater and MTBE contamination, result in more complex, costly, and time-consuming cleanups. In FY 2004, the Agency will continue to provide funds to address the cleanup of more complicated sites (e.g., those contaminated with MTBE or other fuel oxygenates). Lessons learned from these pilots will be shared with other state and Tribal regulators, responsible parties and communities facing similar problems.

The Agency will continue to promote the completion of LUST cleanups in order to reduce the national backlog of 143,000 releases remaining to be cleaned up. EPA will continue to perform its oversight responsibilities, strengthen partnerships among stakeholders, and provide technical assistance and training to improve, make more cost effective and expedite corrective action at LUST sites. The Agency will also identify and foster the implementation of innovative approaches such as multi-site agreements and performance-based contracting to achieve its LUST program objectives.

The LUST Program will also help to advance EPA's One Cleanup Initiative of fostering land use decisions early in the cleanup process. Furthermore, the Senior Cleanup Council, comprised of upper-level EPA and state managers representing all cleanup programs, plans to continue its work to address policy and implementation issues that will streamline and improve consistency among all cleanup programs.

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 fund cooperative agreements 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, LUST resources are available to pay for this activity. Remediation technologies will need to advance in order to address new contaminants, such as MTBE, more effectively. As substitutes are sought for MTBE and other fuel oxygenates, 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 new remediation and site investigation technologies.



The Agency has the primary responsibility for implementing the LUST program in Indian Country. EPA oversees and conducts site assessments and remediation, in part, through a national LUST contract designed specifically for Indian Country. Through the end of September 2002, there were 1,043 confirmed releases, 914 cleanups initiated, and approximately 573 cleanups completed. The Agency estimates that cleaning up all known and yet-to-be-discovered releases in Indian Country will take several years.

### Superfund

The Superfund program addresses contamination from uncontrolled releases at Superfund hazardous waste sites that may threaten human health, the environment, and the economic vitality of local communities. Superfund sites with contaminated soils, sediment, and groundwater exist nationally in a large number of communities. Many of these sites are located in urban areas, are accessible by children, and expose the population to contamination. Once contaminated, groundwater, sediments, and soils may be extremely difficult and costly to clean up. Some sites will require decades to clean up because of their complexity and for some sites, removing or destroying all of the contamination is not possible. Residual contamination at these sites will need to be managed on site, creating a need for long-term stewardship.

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) control human exposures and the migration of contaminated groundwater at NPL sites, 6) develop technologies for cost-effective characterization and remediation; 7) ensure long-term protectiveness of remedies by overseeing operations and maintenance and conducting five-year reviews; 8) enhance the role of states and Indian tribes in the implementation of the Superfund program; 9) work with the surrounding communities to improve their direct involvement in every phase of the cleanup process and their understanding of potential site risk; 10) continue progress of cleanups while increasing consistency with other EPA cleanup programs; and 11) promote reuse and redevelopment of Superfund sites.

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 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 (CERCLIS) database (in the case of Federal facilities, sites are placed on the Federal facility hazardous waste docket). EPA assesses these sites to determine whether Federal action is needed. In most cases, EPA makes a determination that no further Federal action is required. These sites are removed from the inventory. If warranted, EPA may refer sites removed from its inventory to state or Tribal environmental authorities for further attention. For those sites requiring additional action to protect public health and the environment, EPA seeks the course of action best suited for the individual site. Sites posing immediate risks may be addressed under removal authority. EPA may defer response at sites with ongoing state action. In some instances, potentially responsible parties enter into agreements with EPA to evaluate or clean up sites prior to listing on the NPL. In such cases, where cleanup 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 immediate risks at sites on the NPL. As a matter of policy, EPA seeks a concurrence from a governor before listing a site on the NPL.

EPA undertakes removals 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. EPA's improved ability to respond to hazardous substance release emergencies will be measured in its FY 2004 emergency response and homeland security measure.

For sites listed on the NPL, remedial work begins with site characterization and a feasibility study to review site conditions and proposals for future land use. These actions form the foundation for the record of decision and remedy selection. Community 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 cleanup or other work necessary to implement the remedy selected. Potentially responsible parties or other Federal agencies

perform remedial action work. EPA or states may also perform remedial cleanup as Fund-financed actions.

In FY 2004, EPA will complete construction at 40 NPL sites. As of December 29, 2002, EPA assessed over 44,400 sites, completed final cleanup plans at over 1,100 Superfund NPL sites, conducted over 7,300 removal cleanup actions at hazardous waste sites to reduce immediate threats to human health and the environment, and removed more than 33,100 sites from the CERCLIS waste site list to help promote the economic redevelopment of these properties. The Agency also cleaned up or had construction underway at 93% of the 1,499 sites on the final NPL. Of these 1,499 sites, 56% have cleanup construction completed (846 sites) and 37% have removal or remedial cleanup construction underway (548 sites).

### Environmental Results

The Superfund Program fulfills an important environmental mission of reducing risks to human health and the environment posed by dangerous chemicals, pollutants and contaminants in the air, soil and water. The Superfund program and its partners – including other Federal agencies, states, local and Tribal governments and others – work collaboratively to reduce these risks.

Environmental data gathered by EPA through October 8, 2002, shows that since the inception of the Superfund program, EPA has: 1) provided alternative drinking water supplies to nearly 610,000 people at NPL and non-NPL sites to protect them from contaminated ground and surface water; 2) relocated over 32,000 people at NPL and non-NPL sites in instances where contamination posed the most severe immediate threats; 3) treated or removed 820 million cubic yards of hazardous solid waste; and, 4) addressed 365 billion gallons of hazardous liquid waste (including contaminated groundwater).

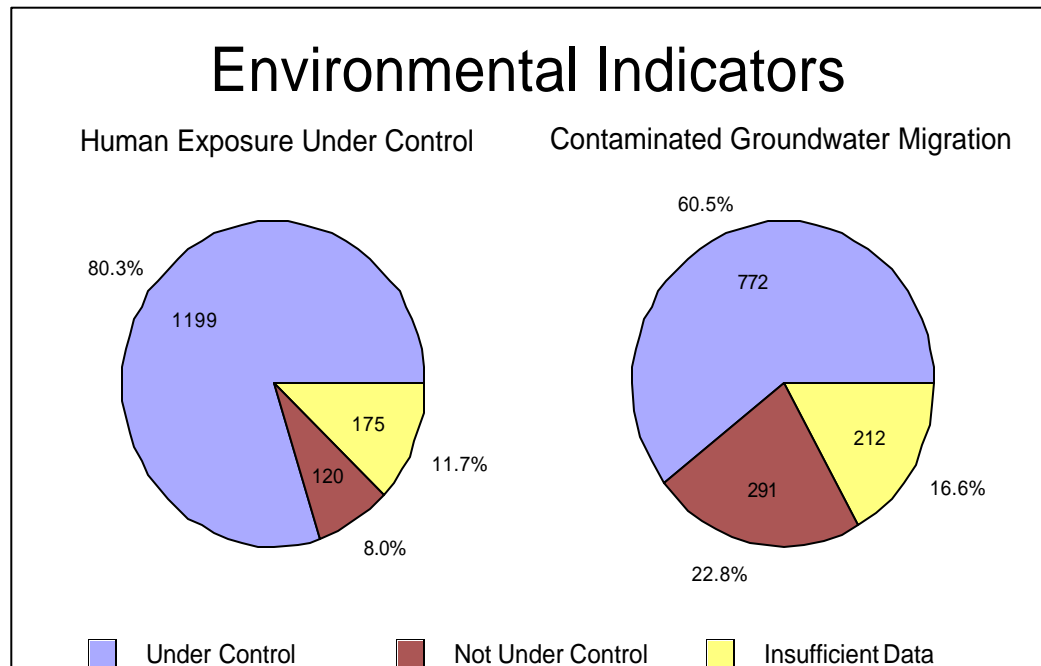
The Superfund program seeks to improve its ability to measure true environmental progress in achieving its mission. In FY 2004, EPA will measure progress in achieving environmental results through 5 key performance measures. These five measures include: (1) assessing the extent of contamination at sites, (2) the initiation of removal response actions, (3) completion of construction of the selected remedies, (4) protecting the public from exposure to contamination, and (5) controlling the migration of contaminated groundwater. These measures highlight important milestones in achieving risk reduction; no one measure can itself adequately capture the environmental benefits derived from the Superfund program.

The first 3 measures have been in place for several years. Two new measures, (4) and (5) above, implemented in FY 2002, highlight EPA's efforts to control human exposure pathways and the migration of contaminated groundwater at NPL and non-NPL sites. In FY 2002, these two measures first provided baseline information about whether human exposures and the migration of contaminated groundwater is under control under the current conditions at NPL sites. These two measures focus on the current conditions at sites (i.e., current exposures and current land use) and highlight sites where some risk reduction has occurred as a result of EPA's activities. As such, these indicators seek to quantify the benefits resulting from intermediate cleanup and investigative activities.

The Human Exposure Under Control measure, (4) above, is meant to describe whether adequately protective controls are in place to prevent any unacceptable human exposure under current land and groundwater use conditions only. This measure does not consider potential future land or groundwater use conditions or ecological receptors. As of September 30, 2002, 1,199 NPL sites (over 80%) had human exposures under control. The Superfund program expects to control human exposures at an additional 10 sites for both FY 2003 and FY 2004.

The Groundwater Migration Under Control measure, (5) above, is meant to describe whether the migration of contaminated groundwater from a Superfund site is being controlled through engineered remedies or natural processes. As of September 30, 2002, the migration of contaminated groundwater

was under control at 772 NPL sites (over 60%) with contaminated groundwater. The Superfund program expects to control the migration of contaminated groundwater at an additional 10 sites for both FY 2003 and FY 2004.



The Superfund program is committed to returning underutilized land to productive reuse through its cleanup and other actions. The Superfund program has a workgroup underway to develop a measure of this activity. A measure entitled Acres of Land Available for Safe Reuse is currently under consideration, and is scheduled to be introduced by Superfund beginning in FY 2005.

As the Superfund program seeks to improve and refine its existing program measures, it is actively working on several new measures for use in the years beyond FY 2004:

- Ecological Risk Reduction measure – The Superfund and RCRA programs are working together to develop an Ecological Risk Reduction measure. This measure is intended to quantify the benefits resulting from cleanup actions by estimating the degree to which the selected remedy protects ecological receptors from contaminants at the site. Within the next several years, EPA intends to develop and pilot a draft methodology to ascertain the feasibility of implementing this type of measure. Based on the pilot results, EPA and its

partners seek to develop a measure that demonstrates ecological risk reduction by FY 2008.

- Population Exposure Reduction measure – The Superfund program is in the process of developing a population exposure reduction measure to better quantify the human health benefits resulting from cleanup actions. Within the next several years, EPA intends to develop and pilot a draft methodology to ascertain the feasibility of implementing this type of measure. Based on the pilot results, EPA and its partners seek to develop a measure that demonstrates population risk reduction by FY 2008.

EPA is actively seeking comment from stakeholders on these two approaches. Most notably, EPA has shared the draft methodologies for the Population Exposure Reduction and the Ecological Risk Reduction measures with the National Advisory Council for Environmental Policy and Technology (NACEPT) Superfund Subcommittee and has received initial feedback. We anticipate that the Subcommittee will participate fully in the refinement of these measures during FY 2004 and beyond.

Another new measure currently under development, but planned for implementation in FY 2004 is the Homeland Security/Emergency Response Readiness measure. This measure is based on EPA's Core Emergency Response criteria, and it is anticipated that baseline data will be gathered in FY 2003, with a target of 10% improvement from baseline every year beginning in FY 2004.

Other performance measure related activities include the One Cleanup Program Initiative, in which Superfund is an active participant. The Measuring for Results component of the One Cleanup Program Initiative involves developing a unified, cohesive set of performance measures for all cleanup programs.

In FY 2004, Superfund will also be working with the Regions to extend the traditional and evolving performance measures, including construction completions, to the Superfund Alternative Sites. The current focus of this effort is to improve the quality of CERCLIS data. A headquarters/regional workgroup is being formed to finalize the approach for tracking and counting construction completions.

#### Superfund Pipeline Management Review

The Agency initiated the Superfund Pipeline Management Review (PMR) during FY 2002 to ensure that Agency resources are properly focused to achieve maximum results, including protection of human health and the environment as well as progress towards completion of response actions at sites.

As of October 1, 2002, Superfund has 1,499 sites on the NPL, of which over 650 require additional response actions (also called construction) to achieve protection of human health and the environment. As the program has matured, more sites have advanced to the construction phase. Superfund construction projects are technically complex and costly, and growth in the number, size, duration and cost of these projects over time has resulted in a backlog of

construction projects awaiting funding. Superfund cleanups directly support the Agency goal of ensuring that the Nation's land is better protected.

Through the PMR, EPA is increasing the precision with which the Agency tracks construction completion candidates and projects future construction completion achievements, extending the planning horizon for making funding decisions for Superfund construction projects, and implementing new policies and actions to maximize the use of resources available for construction.

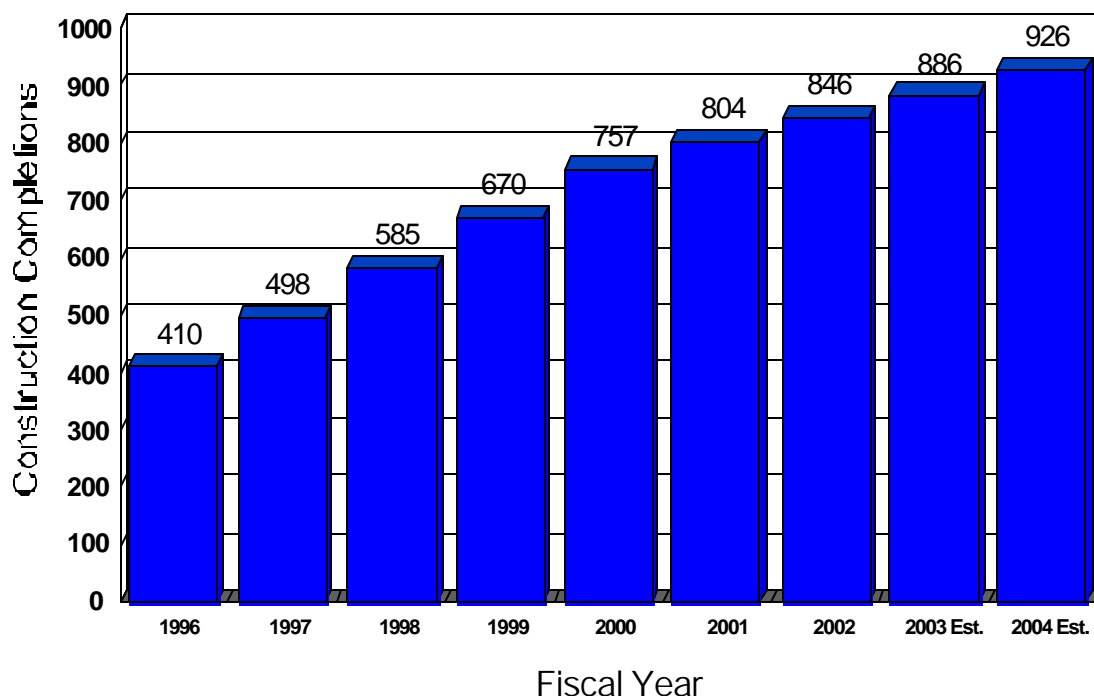
### Construction Completions

Construction completion has been the primary performance measure for the Superfund program and the Agency remains committed to completing construction at Superfund sites. After four years of exceeding 85 construction completions annually, the program achieved 47 construction completions during FY 2001 and 42 construction completions in FY 2002, for a total of 846 completions since the inception of the program. The Program expects to achieve construction completion at 40 sites during FY 2003, for a total of 886 since program inception. EPA expects construction completion accomplishments to remain at approximately 40 during FY 2004. Since the beginning of the program, the Agency has averaged 42 construction completions per year. As part of the PMR the Agency has moved to a three year planning cycle to identify and track construction completion candidate sites. Early in FY 2002, Headquarters conducted a series of regional visits to interview, and collect data from, Remedial Project Managers (RPMs) who manage approximately 150 sites that, at that time, were considered by the Regions to be candidates for construction completion during FY 2002 through FY 2004.

EPA monitors site progress and identifies potential critical points as sites move towards construction completion. Starting in FY 2003, as part of the three year cycle for construction completion planning and tracking, the Agency will regularly conduct detailed and comprehensive reviews of construction completion candidates for the current year and the following two years. The information collected from the discussions will be used to better follow site progress, identify potential problems, and sharpen projections of future construction completions.



## Cumulative Construction Completions



### Remedial Action Project Planning & Resource Allocation

Funding for Superfund construction projects is critical to achieving risk reduction and construction completion measures. The cost of Superfund construction projects underway and those awaiting funding is rising due to the greater complexity of sites remaining on the National Priorities List (NPL).

Through the PMR, the Agency is taking the following internal actions:

- carefully review the scope, budget and schedule of ongoing construction projects to ensure available resources are directed where they are needed.
- review construction start candidates to ensure that sites that present the greatest risk to human health are addressed, while balancing the programmatic need to complete construction at other sites.
- emphasize “enforcement first” to maximize the involvement of responsible parties to conduct cleanups.
- Maximize the use of resources already available to the Agency.

These actions proved successful during FY 2002. The Agency redirected more than \$100 million from 15 construction projects, which still allowed continued progress at these sites, but

allowed EPA to direct resources to meet other construction project needs. Cumulatively, the Agency obligated more than \$300 million in appropriated funds and over \$50 million in reimbursable resources for Superfund construction. Funding was provided for more than 100 "ongoing" construction projects and long-term response actions, as well as 19 "new start" construction projects. However, funding was not available for seven construction projects that were ready to start, with a cumulative estimated cost of approximately \$100 million, and these sites will be reconsidered for funding during FY 2003.

EPA will continue to place a high priority on construction funding during FY 2003. Contingent on the final appropriation level, the Program will increase funding for construction by \$10 million by shifting resources from pre-construction activities. As resources are identified for new start construction, projects will be selected for funding based on their relative risk to human health and the environment and the potential to achieve construction completion. The EPA will continue to focus on the PMR initiatives described above, with particular emphasis on enforcement first. Additionally, the Program has undertaken a new management initiative to more efficiently monitor, project and manage the funding needs associated with high cost multi-year projects using computer enhanced planning and tracking tools. The goal of this initiative is to monitor large projects on a real time basis so that adjustments to resource needs and schedules can be immediately factored into current and projected national budget operating plans.

#### FY 2004 Funding Increase for Superfund Construction

To address growing construction project resource needs, the Agency requests an increase of \$150 million for FY 2004. The Agency will use these resources to begin new construction projects at high priority sites. Specifically, we expect to demonstrate significant progress in reducing risk to human health and the environment and revitalizing the number of construction completions at NPL sites within two to three years. This investment will mitigate potential human exposures and control the migration of contaminated groundwater, thus protecting humans and ecosystems from unacceptable risks.

With the additional resources from this initiative, EPA will initiate 10 to 15 new remedial action projects in FY 2004, including backlogged projects not funded in prior years. As a result, EPA hopes to achieve construction completion at up to 10 additional sites during FY 2005 and FY 2006. Also, with the support of the additional resources, EPA hopes to control actual and potential human exposures and/or migration of groundwater contamination at a similar number of sites.

As of January 2003, a total of approximately 80 sites may be ready for cleanup in FY 2003 and FY 2004. Of these sites, over 40% are construction completion candidates within two years following the start of construction. In addition, over 25% of the sites have been identified as not having human exposures controlled. As site-specific resource use plans solidify, Superfund will assign funding priority to projects at sites where actual or potential human exposures are not controlled, and at sites where EPA can achieve construction completion during FY 2005 and FY 2006.

As described above, EPA will continue to improve its site/project tracking methods, and will improve its projections of which projects will receive resources for new construction during a fiscal year, and at which sites EPA is likely to achieve construction completion in upcoming years.

### Evaluation

The Agency will evaluate the effectiveness of this initiative by monitoring short-term and long-term accomplishments:

- Short-term focus – Superfund will closely monitor the allocation and distribution of the requested increase to ensure that the funds are directed to response action construction; Superfund will monitor and report on the number of response actions initiated with the proposed funds and undertake management actions to ensure the funds are used for the highest priority sites;
- Long-term focus – Superfund will monitor the progress of the funded projects and report the number of sites where human exposures and groundwater migration was controlled, and construction completion was achieved.

### Superfund Program Initiatives

#### *National Advisory Council for Environmental Policy and Technology (NACEPT)*

A key component of the one cleanup program initiative is undertaking a stakeholder dialogue on the future direction of the Superfund program in the context of other waste cleanup programs. The Agency initiated this dialogue in June 2002 with the creation of the Superfund Subcommittee under the National Advisory Council for Environmental Policy and Technology (NACEPT). This dialogue will last approximately 18 months. The Subcommittee will work to render consensus-based recommendations on three key issues: 1) the role of the National Priorities List (NPL); 2) mega sites; and 3) performance measures.

#### *NPL Listing Policy*

EPA is working on two fronts to thoroughly examine its policies with regard to decisions to place new sites on the NPL. As noted above, a new NACEPT Subcommittee has been convened to provide broad Superfund program stakeholder advice on NPL listing, and a new EPA, state and Tribal workgroup has been formed to develop recommendations for interim NPL listing policies/management approaches. The NACEPT Subcommittee will be working on this issue for the next 12-18 months, so its recommendations address a longer-term future of Superfund. The EPA-led workgroup is focusing its attention on interim/near-term refinements of existing NPL listing policy. Key areas include consultation/consideration of non-NPL cleanup options and systematic priority-setting among candidate sites. EPA will be communicating its activities and the status of NACEPT's work as it progresses.

### *Superfund Pre-SARA/First Generation Site Initiative*

Closely tied to the PMR is the Superfund pre-SARA site initiative. As of August 1, 2002, 226 sites that were placed on the NPL prior to October 16, 1986 (date of enactment of the Superfund Amendments and Reauthorization Act, SARA) were not construction complete. This initiative encourages Regions, working with States, other Federal agencies and local jurisdictions, to resolve issues necessary to move these pre-SARA sites into the construction completion category. Specifically, the initiative will:

- focus on developing stakeholder-based schedules for resolving remaining issues delaying the completion of longer duration sites (i.e., Federal and non-Federal, pre-SARA, final NPL sites);
- facilitate the resolution of issues necessary to completing construction at these sites by identifying the scientific, technical and legal issues to be resolved, sequencing the resolution of issues to maximize completions over the next 5 to 10 years, and establishing accountability for issue resolution (e.g., Research and Development, Enforcement, Federal Facilities, Superfund);
- allocate program resources to better leverage cleanups at these sites (e.g., factoring in the cost of ‘warehousing sites,’ as well as, funds needed for completion);
- provide more aggressive management oversight, tracking of site progress, reporting of accomplishments, and publicizing results; and
- use lessons learned from analysis of past sites to minimize the number of future sites lingering on the NPL in the future.

### *Post Construction*

Although construction completion is a major milestone in the Superfund program, many activities occur at a site after construction is complete. These post construction activities are essential to assure that Superfund sites remain protective and are suitable for reuse following cleanup. The activities include:

- oversight of operation and maintenance activities performed by the states and PRPs to ensure that the remedies work properly;
- operation of Fund-financed groundwater restoration systems for up to 10 years (long-term response), and oversight of states and PRPs operating these systems until cleanup goals are achieved;
- implementation and oversight of institutional controls;
- five-year reviews to ensure remedies remain protective of human health and the environment;

- optimization of groundwater restoration systems to improve performance and/or reduce costs; and
- NPL site deletion.

As more sites move into post construction, the EPA is devoting more resources to assure adequate long-term stewardship. A post construction strategy for Superfund sites is currently under development that will identify key initiatives for FY 2003 and FY 2004. EPA will work closely with State and local partners as well as other stakeholders to focus on these key initiatives.

One area requiring increased emphasis is institutional controls (ICs). EPA defines ICs as non-engineered instruments, such as administrative and/or legal controls, that help to minimize the potential for human exposure to contamination and to protect the integrity of a remedy by limiting land or resource use. The challenge of ICs is that although they play a critical role in remedies, they are often implemented, monitored and enforced by different agencies and/or entities at different levels of government. To ensure the long-term reliability of ICs, structured, coordinated and routine IC tracking must occur. For this reason, EPA is working with other Federal Agencies, states, Tribes, local governments and industry to pilot the development of a coordinated Federal, state, local and industry tracking approach to better manage IC information. This concept promotes the identification of core data categories, the use of common IC definitions, and the virtual sharing of IC information among various IC co-regulators and other stakeholders.

The main goal of the Coordinated IC Tracking Concept is to promote pro-active stewardship throughout the entire IC life-cycle by facilitating the collection, tracking, and sharing of accurate information about ICs. The concept is to link different Federal, state, Tribal, local government and industry systems through a virtual network. An EPA system will be one part of the network, and will provide links to other tracking systems and mechanisms to share information. To create this network, EPA has begun a collaborative development process among co-regulators, industry and other stakeholders that seeks to: 1) leverage information from existing systems; 2) provide an opportunity for data to be collected by organizations not currently tracking ICs; 3) identify and exchange methods for effective data sharing; 4) pilot the sharing of information on a minimum set of data elements; and 5) identify data stewards to support the formation of a network for data sharing. EPA is hoping to have results from this pilot by the end of calendar year 2003.

#### *Community, State, and Tribal*

EPA is committed to involving the community in the site cleanup process. Superfund bases its community involvement on two-way communication designed to keep citizens informed about site progress and give them the opportunity to provide input on site decisions. The Agency conducts outreach efforts, such as holding public meetings and public availability sessions and by distributing site-specific fact sheets. Superfund also has a variety of community involvement programs, such as the Technical Assistance Grant (TAG) program, the Community Advisory Group (CAG) program, the Technical Outreach Services for Communities (TOSC) and

Technical Outreach Services for Native American Communities (TOSNAC) programs, and the Superfund Job Training Initiative (SuperJTI). The TAG program provides communities with financial assistance to hire technical advisers to assist them in understanding the problems and potential solutions to address hazardous waste cleanups. A CAG is a group of community stakeholders, which reviews plans and activities and provides input on local needs and concerns to those responsible for cleaning up a Superfund site. TOSC and TOSNAC are university-based outreach programs that provide technical assistance to communities that are affected by hazardous substances. SuperJTI supports job training programs in communities affected by nearby Superfund sites and encourages the employment of trainees at local site cleanups. The Agency strives to create a decision-making process to clean up sites that 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 at Superfund sites. EPA can authorize the states or Tribes to carry out Fund-financed remedial actions. However, states and Tribes more often operate in the role of a support agency to remain actively involved in site response activities while EPA plays the 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 the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) responses. EPA currently has CORE program cooperative agreements with 46 states and 55 Tribes or Tribal consortia. Activities funded under the core program cooperative agreements include: 1) developing procedures for emergency response and long-term remediation (e.g., health and safety plans, quality assurance project plans, and community relations plans); 2) satisfying all Federal requirements and assurances (e.g., fiscal and contract management activities for CERCLA); 3) providing legal assistance (e.g., coordinating applicable or relevant and appropriate requirements (ARAR) identification); and 4) training staff to manage publicly-funded cleanups.

### *Redevelopment*

EPA is increasingly aware of the importance of fully exploring future use opportunities at Superfund sites with its partners before selecting and implementing a cleanup remedy. In FY 2004, the Superfund redevelopment initiative will facilitate the return of Superfund sites to productive use. As a result, Superfund sites that were once thought to have no future use potential are now being “recycled” back into productive use. EPA has compiled a list of over 330 Superfund sites that have been recycled for numerous purposes. For example, more than 60,000 acres are now in ecological or recreational use at these sites. Additionally, more than 15,500 jobs, representing approximately \$500,000,000 in annual income, are located at sites that have been recycled for commercial use. Under this initiative EPA will continue to focus its efforts on the potential reuse of Superfund sites and involve its partners to determine future uses of sites. EPA can then select, design, and implement cleanups that are protective of human health and the environment consistent with chosen future uses. EPA has given communities at

69 pilot sites up to \$100,000 in direct financial assistance and/or services. EPA will assess the impacts from these pilots on the Superfund program and their potential to facilitate site reuse following cleanup. By the end of FY 2004, EPA expects to have completed reuse plans for most of the original 50 pilot sites.

The emphasis on land revitalization in EPA's cleanup programs will lead to the development of new measures such as acres of land made available for use and acres of land in use. The Agency will begin reporting on Brownfield acres available for use in FY 2004. In following years, the Agency will be reporting on acres available for use in other programs.

### *Quality Assurance*

In an effort to better implement the Agency's Quality Assurance Order (EPA Order 5360.1 A2 May 2000), EPA is enhancing the quality management activities of its Superfund program office. This work entails the implementation of a quality management plan based on the EPA Order. Specific enhancement of standard operating procedures, guidance for the development and application of models, training for quality related activities, and other activities will aid in promoting quality. The quality management plan will initiate a continuing process to improve environmental cleanup decisions. These activities will continue to promote cross program coordination so that Superfund cleanup efforts will reflect increasing progress toward consistency and transparency across programs that is needed to support the goal of one cleanup program. The maintenance of up-to-date standard operating procedures allows EPA to continue to take immediate actions to address Homeland Security threats and other responses that require quality assurance procedures for the collection and assessment of data to support decisions on hazards and cleanup. Finally, these quality assurance activities support revitalization efforts through the establishment of transparent and consistent standards for environmental cleanups.

Activities to establish consistent Quality Assurance processes among EPA, Department of Defense, and Department of Energy will continue in FY 2004. An Intergovernmental Data Quality Task Force (IDQTF) has completed development of a *Uniform Federal Policy for Implementing Quality Systems* which has been approved by DOD, DOE and EPA. The Task Force is chaired by the Director of the Federal Facilities Restoration and Reuse Office. This policy will form the basis of a DOD-wide quality system and is under consideration as the basis of a DOE-wide system. EPA and DOD are negotiating a Memorandum of Understanding on implementation of the Policy.

The IDQTF is revising the draft *Uniform Federal Policy for Quality Assurance Project Plans* based on comments from DOD, DOE, the Association of State and Territorial Solid Waste Management Officials, and EPA Headquarters and Regional offices. The Task Force feels the use of this policy will promote consistency and uniformity in planning data collection. The anticipated results include improved data quality and cost and time savings in the future. While these policies are based on a national consensus standard, *Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs (ANSI/ASQC E-4)*, agreement between Federal agencies to adopt specific procedures is a new and innovative approach in the quality arena. These initiatives will also support compliance with the guidance issued by the Office of Management and Budget on February 22, 2002, entitled

“Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated by Federal Agencies,” which were required by PL 106-554.

The OSWER-wide Quality Management Plan, which includes the Federal Facilities Restoration and Reuse Office, will be reviewed and revised to support compliance with the EPA Information Quality Guidelines issued in October 2002.

Other Federal Agencies

Other Federal agencies contribute to the Superfund program by providing essential services in areas where EPA does not possess the needed specialized expertise. Contributors include 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. Some of the essential services performed by these Federal agencies include the following: 1) DOI provides response preparedness and management activities that support the National Response System; provides Federal, state and Indian Tribe trustees to assess damage to natural resources 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 and financial assistance to support the National Contingency Plan and the National Response System through development of preparedness exercises and hazardous materials training.

**Other Federal Agency Funding**

<b>Agency</b>	<b>FY 2003 Pres Bud</b>	<b>FY 2004 Pres Bud</b>
DOI	\$997,700	\$997,700
FEMA	\$1,097,400	\$1,097,400
NOAA	\$2,444,500	\$2,444,500
OSHA	\$648,500	\$648,500
USCG	\$5,487,900	\$5,487,900
Total	\$10,676,000	\$10,676,000

Homeland Security

*Core Emergency Response*

EPA’s capability to respond effectively to chemical, biological, and radiological incidents will be measured through the Core Emergency Response (Core ER) program. This continued enhancement in EPA’s Regional response capabilities will cover all aspects of the Core ER program, including Regional Response Centers, transportation, coordination with backup Regions, health and safety, delegation and warrant authorities, response readiness, response equipment, identification clothing, training and exercises, and outreach. The Agency will establish measurable improvement goals in Core ER and will work toward that improvement through exercises and other program enhancements.



EPA has established a criteria of excellence through the structure of the Core ER program. While EPA is currently prepared to respond to chemical, biological, and radiological incidents, improvement in the emergency response and homeland security readiness measure will demonstrate an increased ability to respond quickly and effectively to national-scale events. The FY 2004 Core ER target is to improve emergency response and homeland security readiness by 10% from the FY 2003 baseline performance.

EPA's field response capability also relies on a support infrastructure including specialized equipment, equipment inventories, and laboratory support. The Agency will continue to build on its equipment support by identifying state-of-the-art detection, monitoring, and response equipment designed to address chemical, biological, and radiological agents. Also, EPA will build inventories of standard response equipment such as personal protective gear to ensure that it is prepared to respond to multiple incidents. Equipment will be maintained and replaced as necessary to ensure the Agency has the best technology available.

EPA's field responders and National Response System special forces require extensive training in a variety of response-related areas, including scientific and technical training for detection, analysis, and response to chemical, biological, and radiological agents; and training in incident command system response management processes. Training courses will be developed and implemented for different levels of response experience and involvement, including refresher courses for senior, experienced responders; in-depth training for newer responders in both scientific and response management areas; and training for all responders in state-of-the-art response techniques and emerging chemical, biological, and radiological threats.

#### *Environmental Response Team*

EPA's Environmental Response Team (ERT) will continue to provide specialized field support to Regional responders, including specialized air monitoring, health and safety support, and other scientific and technical support. ERT will continue to enhance its capabilities in its Edison, New Jersey, Cincinnati, Ohio, and Las Vegas, Nevada, locations to ensure that they are ready at all times to quickly and effectively meet the specialized field support needs of EPA's responders, including those responses to terrorist incidents with biological, chemical, and radiological agents.

#### *Decontamination Team*

EPA will continue the development of the National Response Decontamination Team (Decon Team) that provides unique, immediate response capabilities to safely and effectively support decontamination activities related to chemical, biological, and radiological terrorism events. While focused domestically, the Decon Team may respond worldwide delivering scientific and engineering expertise for the decontamination of buildings, building contents, public infrastructure, indoor environments and the associated environmental media. The Decon Team is designed to integrate with and operate from within incident command structures, along with and complementing other Special Forces. When not fully engaged, this team is devoted to preparedness activities related to the team's primary function.

### *Field Expertise, Training, and Equipment*

EPA's response personnel must consistently work to keep its skills refined and technologically up-to-date. This will be accomplished through extensive training and exercises focusing on terrorist-related scenarios and anticipated chemical, biological, and radiological agents. In addition, these resources will refine and improve field response skills through participation in responses to smaller-scale and non-terrorist incidents. These incidents often present similar consequences and response challenges as those anticipated for terrorist incidents, and additionally introduce more real-life situations and complicating factors than planned exercises. Participation in these actual responses is critical to ensuring that these specialized response teams are fully prepared to handle terrorist incidents.

### *Federal Preparedness*

EPA supports a highly effective national emergency preparedness and response capability under multiple authorities.

Under the Homeland Security program, the Office of Solid Waste and Emergency Response (OSWER) is the designated program lead responsible for ensuring that EPA as a whole is prepared to respond to chemical, biological and radiological events. OSWER coordinates the Agency's response to national emergencies. The program also serves as the Agency's focal point for coordinating internal activities; and it represents EPA with interagency organizations, committees and workgroups to coordinate Federal activities and ensures that EPA's programs and activities are consistent with the Homeland Security national strategy.

In FY 2004 Homeland Security activities will continue to concentrate on implementing recommendations in the September 11 Lessons Learned Report. Efforts will include improving the operations of the National Incident Coordination Team which serves as the EPA focal point for coordinating response efforts and handling cross-program and multi-program issues before and during terrorist incidents. The program will also continue to upgrade the EPA Emergency Operations Center and coordinate development of a comprehensive EPA Continuity of Operations/Continuity of Government plan that can be immediately activated when a catastrophic emergency occurs.

Through the National Response Team (NRT)/Regional Response Teams (RRTs) and the Federal Response Plan (FRP), the Federal government provides assistance to states and cities to prevent, prepare for, and respond to hazardous substance and petroleum emergencies.

Building on current efforts to enhance national emergency response management, NRT agencies will continue to implement and test an incident command/unified command system (ICUCS) across all levels of government and the private sector. Technical assistance guidance, training, and exercises will be provided to identify and correct barriers to implementing the system (e.g., size of command structure, cultural differences between state/local and Federal responders). Decision-making about whether to evacuate or shelter-in-place and how to communicate to the public (before and during an incident) are also important parts of the process and will be addressed in FY 2004. In the science and technology area the NRT is developing a

system that will allow contingency plans to be posted on the internet so that information can be instantly available to responders. The system is expected to be completed in FY 2004.

Another important NRT priority in FY 2004 is the U.S.-Panama Canal agreement which calls for the U.S. to provide assistance to Panama for emergency incidents that exceed their incident management capabilities. Activities will include training and table top exercises involving incident notification and response management.

The FRP, under the direction of the Federal Emergency Management Agency (FEMA), provides for the delivery of Federal assistance to states to help them deal with the consequences of natural (floods, earthquakes, hurricanes) and other significant disasters. EPA has the lead responsibility for the plan's Emergency Support Function covering hazardous materials. As such, it participates in the Federal Emergency Support Function Leaders Group which addresses FRP planning and implementation at the operational level. Through this interagency organization, Federal agencies handle issue formulation and resolution, review after-action reports, and evaluate the need for changes to FRP planning and implementation strategies. They also participate in FRP exercises, training and post event evaluation actions, coordinating these activities closely with the National Response Team.

Under the FRP, EPA participates on the Catastrophic Disaster Response Group (CDRG) which provides national level guidance and policy direction on response coordination and issues that arise from emergency support function activities. A key activity of this group is the development of the Catastrophic Earthquake Project. The effort includes a comprehensive examination of a prior earthquake response to determine the nation's capability to respond to future disasters. Completion of the evaluation will result in a revised and improved national earthquake disaster response plan.

In FY 2004, EPA will continue to provide staff support to the FEMA's emergency operations center during national disasters and emergencies. We will also continue to develop and participate in training courses on emergency support function responsibilities, deliver presentations on the FRP to national forums, and participate in nation-wide exercises to test and improve the Federal government's preparedness and response system capabilities.

### *Research*

EPA's Homeland Security Research Program supports one of six Administration FY 2004 Interagency Research and Development Priorities. Research is concentrated under the Preparedness, Response, and Recovery goal of EPA's Homeland Security Strategic Plan. Under this goal, EPA will focus on strengthening and broadening its response capabilities, clarifying its roles and responsibilities to ensure an effective response, and promoting improved response capabilities across government and industry in the areas in which EPA has unique knowledge and expertise. Among the goals in this area are the development, dissemination, and use of new and improved tools and techniques for responding to chemical and biological incidents. In FY 2004, Homeland Security research will continue to focus on building decontamination research, which will be completed by the end of FY 2004.

In FY 2004, building decontamination research will continue to focus on methods and technologies for 1) detection and containment of biological and chemical agents intentionally introduced into large buildings/structures, 2) decontamination of building surfaces, furnishings, and equipment, and 3) safe disposal of residual materials.

### Superfund Federal Facilities Response Program

Thousands of Federal facilities nationwide are contaminated with hazardous waste, military munitions, radioactive waste, fuels, and a variety of other toxic contaminants. These facilities include many different types of sites, such as formerly used defense sites (FUDS), active, closing and closed installations, abandoned mines, nuclear weapons production facilities, fuel distribution areas, and landfills. The Superfund Federal Facilities Response program is still a growing program. There are 177 Federal sites listed on the NPL (158 final, 13 deleted, 6 proposed), over 9,000 FUDS, and approximately 50 Formerly Utilized Site Remedial Action Plan (FUSRAP) sites. There are currently 482 remedial investigations/feasibility studies, 74 remedial designs, and 208 remedial actions being addressed in the Federal Facilities program. Thirty-seven Federal sites have reached the construction completion stage, one installation is scheduled for completion in FY 2003 and 8 more are targeted for FY 2004. In many cases, Federal facilities face unique challenges with types of contamination (e.g., radiation, military munitions), the size of the facility (e.g., DOE's Hanford is over 500 square miles – the size of the State of Rhode Island), or the complexities of reuse related to environmental issues (e.g., base closure).

EPA's Federal Facilities Restoration and Reuse Office 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, while encouraging restoration and property reuse. The Federal Facilities program provides technical and regulatory oversight at Federal facility sites 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.

Performance goals and measures for the Federal Facilities Superfund Response program are a component of the overall Response Cleanup measures. EPA's ability to meet its annual Superfund targets (construction completion, environmental indicators, and property reuse) is partially dependent on work performed at NPL Federal facility sites. Such issues as military munitions, post-record of decision (ROD) authority disputes, and reduced environmental cleanup resources play a major role in construction completion targets being accomplished on schedule at Federal sites. Due to on-going post-ROD dispute issues at DOD installations, over 60 remedy decision documents have been delayed. There are approximately two dozen DOD sites involved in a post-ROD authority dispute. In FY 2001, DOE began a top-to-bottom review of its environmental management mission. Developing a new plan with innovative approaches to expedite the cleanup of DOE sites and reduce risk to human health, safety and the environment is the objective of the review. Following the review, DOE, EPA and states negotiated expedited cleanup plans and high level documents establishing accelerated cleanup principles. DOE field offices then prepared Performance Management Plans based on strategies outlined in the Letters

of Intent. Increasing the pace and approach to DOE cleanup will require an increase in EPA level of effort to negotiated RODs and compliance agreements, and to oversee the cleanup and ensure human health and the environment are protected. In FY 2004, EPA will continue working with the DOD, DOE, and other Federal agency's to maximize construction completions and promote property reuse.

There is a rising demand for EPA's involvement in DOD's Military Munitions Response and FUDS programs. DOD has estimated that millions of acres of training ranges in the United States and its territories are contaminated with military munitions. By their nature, military munitions (unexploded ordnance, buried munitions, and reactive or ignitable soil) present explosive, human health, and environmental risks. The different types of military munitions vary in their likelihood of detonation and sometimes these anomalies are just laying around waiting to be picked up by innocent victims hiking or playing nearby. When disturbed, munitions may explode causing immediate death or disablement to those nearby. EPA is working on several initiatives with DOD, the states, and Federal Land Managers to help build DOD's Military Munitions Response program. The 2002 Defense Authorization Act directs DOD to publish its first inventory of closed, transferred, and transferring ranges by May 31, 2003, and to update it regularly thereafter.

EPA is finding itself more involved in the environmental investigations and cleanups of privately-owned FUDS. FUDS are sites formerly owned, leased, possessed, or operated by DOD (this includes FUDS owned by the states, Tribes, cities, and other government entities, as well as individuals, corporations, etc.). The Defense Environmental Restoration Program (DERP) assigns DOD the "responsibility" to conduct response actions consistent with CERCLA and the National Contingency Plan at such properties. The U.S. Army Corps of Engineers (USACE) executes the FUDs program for DOD.

The Agency is working on several initiatives with the USACE, states, and Tribes in the identification and cleanup of over 9,000 FUDS nationwide. EPA has finalized a policy which articulates how the Agency plans to undertake its obligations and responsibilities at non-Federally owned, non-NPL FUDS. Over the past several years, EPA, the states and public have expressed concerns with USACE response actions, environmental investigations, and cleanups at privately-owned FUDS that are not on the NPL. Some FUDS have been redeveloped for uses inconsistent with their environmental condition (e.g., housing, schools). Spring Valley, located in Northwest Washington, DC is the nation's first FUDS involving the cleanup of chemical munitions in a residential area. This site work which is being managed by the USACE, includes a university and the adjacent neighborhood where World War I chemical warfare agents were tested and disposed in 1918.

#### 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 2004, EPA will continue its successful emphasis on completing construction at Superfund sites by obtaining commitments from PRPs to conduct new remedial actions at non-Federal facility sites and ensuring Federal facility with CERCLA agreements.

EPA 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 environmental benefits cannot be overstated as most contaminated waste sites would not otherwise be cleaned up due to limited Federal resources. 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 funding to the Department of Justice (DOJ) through an interagency agreement (IAG) to assist EPA Superfund in enforcement efforts.

The Superfund program and its stakeholders have benefited 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; and creating site-specific special accounts.

In FY 2004, 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.

In FY 2004, 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.

#### Radiation Program Preparedness, Guidance, and Support

In FY 2004, EPA's Radiological Emergency Response Team (RERT), a component of the Agency's emergency response structure, will continue to prepare for incidents for which EPA is the Lead Federal Agency under the Federal Radiological Emergency Response Plan, as well as prepare to support other Lead Federal Agencies as appropriate. EPA will coordinate with its interagency partners to revise Federal radiation emergency response plans, develop radiological emergency response standard operating procedures and guidance for coordination of Agency support to other Federal and state response agencies, and conduct training and exercises to enhance the ability of the RERT to fulfill its responsibilities in response actions. EPA also will strengthen its national radiation monitoring capabilities to improve the Agency's ability to inform decision-makers about risk and to improve EPA's response to radiological emergencies.

In FY 2004, 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 exposure to radiation. EPA will accomplish this by working with the public, industry, states, Tribes and other governmental 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 and safe manner at Superfund, Department of Energy, Department of Defense, state, local and other Federal sites by:

- Evaluating human health and environmental risks from radiation site exposure, developing models of the environmental fate and transport of radionuclides, and providing a basic understanding of the biological effects of radiation.
- 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 clean-up activities. Finally, EPA coordinates with other nations on select radiological issues, including risk assessment methodologies and risk management approaches.

#### Homeland Security: Radiation Monitoring

The Environmental Radiation Ambient Monitoring System (ERAMS) is the only nationwide environmental radiation monitoring program that provides information about the wide-scale spread of radioactive material from nuclear or radiological incidents. ERAMS includes a network of sampling stations throughout the United States that routinely monitor air, water (precipitation and drinking water) and milk for radioactive contamination. Data from ERAMS is necessary to provide timely information for making protective action decisions in the event of a major nuclear or radiological event. For that reason, ERAMS was identified as one of the Agency's ten most important assets in the PROJECT Matrix™ Step 1 Report (Draft) and was rated as the second most important asset with regard to Public Health and Safety.

ERAMS has been functioning for several years. There is an average of one sampling site for each type of media (air, precipitation, drinking water and milk) per state resulting in coverage of approximately 24 percent of the population. Current response time for results is measured in days, allowing time for collection of samples, shipment to the laboratory, and performance of analyses. The proposed upgraded system will improve our response time and data dissemination from several days to several hours. This upgrade will provide the Agency with greater access to real-time data, enabling the Agency, Federal partners, and state, Tribal, and local officials to make rapid decisions about protecting public health. These resources are needed to upgrade the existing radiation monitoring system (ERAMS) to a National Monitoring System with state-of-the-art technology and rapid response capability to increase preparedness for terrorist attacks and other incidents. The improved system will include increasing the number of fixed air monitoring stations from 52 to 120, increasing our current U.S. population coverage from 24 percent to 60 percent. Forty deployable monitoring systems will be developed and available to be shipped to an impacted site in the event of a radiological emergency. This upgrade will provide the ability to rapidly dispatch radiation monitoring stations to areas or incidents that need additional coverage. This monitoring capability allows for greater density of sampling locations near and downwind from incidents allowing for more accurate real-time data which allows for better decision-making regarding public health protection. Additional improvements include: real-time measurements of radiation levels; state-of-the art sampling instruments; decreased reliance on volunteer operators; and a combination of fixed and deployable radiation sampling stations that will provide flexibility to maximize needed information during any specific incident.

We also will establish and maintain an electronic database and telemetry system that will provide timely data from the ERAMS, RERT, and other sources to Agency decision makers and the public during an incident and during routine conditions. The existing database allows only storage of data with no ability to transmit data from the remote sampling sites or to summarize data in the database. A searchable database will be developed to perform summaries of data and trend analyses. The proposed changes will improve the data base and allow for more extensive review and analyses of the radiation data, and would provide for rapid dissemination of the data to decision makers. It also will provide for telemetry of data directly from fixed and deployable



sampling sites during normal operations or during radiological emergencies, and allow the Agency to establish a secure technology infrastructure to support lab data transmission of sensitive data and analysis functions.

### Brownfields

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. 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/or abandoned properties. 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 states, Tribes and local governments with the tools and financial assistance to assess, clean up, and redevelop Brownfields properties. The Agency's FY 2004 request of \$210,754,100 for Brownfields provides: new and existing assessment grants, Brownfields Cleanup Revolving Loan Fund (BCRLF) grants, cleanup grants, funding directly to states and Tribes to support the state voluntary cleanup programs, targeted assessments, and continued implementation of the liability reforms called for in the legislation. This includes an increase of \$10,000,000 to provide assistance to states and Tribes to develop and enhance their state and Tribal response programs, a priority in the Agency's efforts to reuse and redevelop properties.

FY 2004 funding will allow for more funds to be leveraged, more jobs to be created, and more grants to receive assistance each year. By the end of FY 2004, 689 assessment grants will have been awarded, with 126 assessment grants to be announced and awarded that fiscal year. In FY 2004, 70 communities will receive grant funding for either BCRLF up to \$1,000,000 per eligible state, Indian Tribe or local government entity to clean up Brownfields sites or cleanup grants for up to \$200,000 per site.

The Small Business Liability Relief and Brownfields Revitalization and Environmental Restoration Act (Public Law 107-118) authorized the cleanup of petroleum sites. This funding will clean up a portion of the estimated 200,000 abandoned petroleum tanks found at sites. These resources would support approximately 50 communities to assess and clean up abandoned gas stations or other petroleum contamination within their Brownfields areas in conjunction with the current Brownfields assessment and cleanup programs.

The Agency provides funding for site assessment demonstration grants of up to \$200,000 each. These grants provide EPA, states, local governments, quasi governmental organizations and Federally recognized Indian tribes with useful information and new strategies for promoting a unified approach to environmental site assessment and characterization, and redevelopment. By the end of FY 2003, EPA will cumulatively award over 500 two year assessment grants to communities to assist localities in assessing contamination at Brownfields sites. These grants include existing assessment, greenspace assessment and Showcase assessment-related activities. More than 3,500 properties have had environmental assessments completed under the assessment program since program inception. In FY 2004, the Agency will continue to fund grants. EPA

designed this assistance 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 properties. To date, grants have leveraged over 21,000 cleanup, construction and redevelopment jobs.

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

EPA and its Federal partners will continue to emphasize interagency collaboration in addressing environmental and economic issues in communities through support of 28 existing Brownfields showcase communities. These 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 properties; 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 BCRLF grants of up to \$1,000,000 each. All communities with properties are eligible to apply. EPA offers grants to governmental entities which may provide subgrants to nonprofit or other governmental 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 and cleanup grants. The Agency also provides direct cleanup grants of up to \$200,000 per site. In addition, the Agency awards Brownfields job training and development grants at up to \$200,000 over two years to help residents of Brownfields communities take advantage of new jobs created by the assessment and cleanup of Brownfields.

The FY 2004 request includes a targeted increase of \$10,000,000 to provide additional funding for the enhancement and development of state and Tribal voluntary cleanup programs (VCPs), a priority in the Agency's efforts to reuse and redevelop 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 19 memoranda of agreement that clarify that 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.

The Agency will continue to provide funding for training, research and technical assistance to localities, states, Tribes and nonprofit organizations to ensure that the most efficient and effective technologies are used for Brownfields site assessment, cleanup, and monitoring.

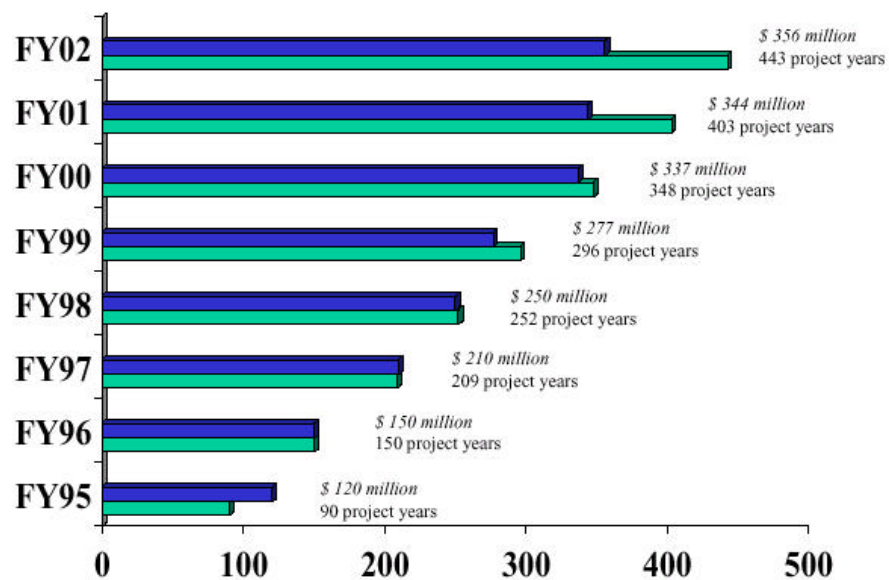
Since the program's inception in 1995, states, territories, and Tribes have received over \$106,000,000 for assessment demonstration and BCRLF grants, Voluntary Cleanup Programs, and Targeted Brownfields Assessments. By funding the increased level of grants in FY 2004, there will be a commensurate increase in leveraged investments and jobs in FY 2005. By the end of FY 2005, the Brownfields grants should leverage over \$7.5 billion and generate 39,000 jobs in cleanup, construction, and redevelopment with 6,800 properties assessed.

Base Realignment and Base Closure

Since 1993, EPA's Superfund Base Realignment and Base Closure (BRAC) program has worked with DOD and the states' environmental programs to achieve the Agency's goal of "making property environmentally acceptable for transfer, while protecting human health and the environment" at realigning, closing or closed military installations. These activities complement Agency themes of one cleanup program and revitalization. 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, 107 have been designated as Fast-Track installations. The four rounds of BRAC are generally referred to as BRAC 1988, BRAC 1991, BRAC 1993, and BRAC 1995, indicating the year in which each cluster of military installations were selected for realignment or closure. Accelerating the cleanup of 107 BRAC installations strives to make parcels available for reuse as quickly as possible by transfer of uncontaminated or remediated parcels, lease of contaminated parcels where cleanup is underway, or "early transfer" of contaminated property.

Since 1993, EPA and DOD have addressed lease-related concerns at BRAC sites by preparing findings of suitability to lease or transfer. These findings summarize any and all environmental information upon which DOD relies while establishing environmental restrictions in leases on property conveyances necessary to

Time and Cost Avoidance Attributed to EPA Participation in the Fast Track Cleanup Program



protect human health and the environment. The majority of BRAC acres planned for transfer from DOD are intended for non-Federal entities. A major success for the Fast-Track program is the formation of base cleanup teams (BCTs) at the Fast-Track designated installations. The

teams, which include environmental experts from EPA, DOD, and states, engineer common sense approaches to cleanups by developing common goals and priorities. The Agency empowers the team to integrate base reuse priorities while making decisions to expedite the process of accelerating cleanup. 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.

EPA and DOD have entered into a new interagency funding agreement which will extend EPA's involvement in the existing BRAC program through September 30, 2005. The National Defense Authorization Act of FY 2002 authorizes another BRAC round for 2005. In FY 2004, the Agency will continue to focus on meeting the requirements of the existing BRAC bases and putting those facilities back into productive reuse. EPA's participation in the BRAC program has afforded DOD a cost savings of \$356 million and 443 project years. This time and cost savings for the BRAC program translates into communities being satisfied since properties are being put back into productive reuse much quicker.

### Resource Conservation and Recovery

For decades, many industrial facilities in this country mismanaged their hazardous wastes. The Superfund program addresses some of these facilities, particularly those that have been abandoned or closed. A significantly larger number, however, fall under the Resource Conservation and Recovery Act (RCRA) corrective action program that EPA and the authorized states administer. Currently, thirty-nine states and territories are authorized to implement the corrective action program. The program covers 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 are likely to be at significant current or future 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 has resulted in over 800 of the 1,700 target facilities achieving the Current Human Exposures Under Control and Migration of Contaminated Groundwater Under Control environmental indicator goals.

Over the past several years, the Agency has been successful in implementing administrative reforms that streamlined the corrective action program and improved overall implementation. The reforms have been effective in changing the way program implementors and stakeholders interact, which has had a positive impact on moving facilities toward cleanup goals. Given the many challenges of meeting the environmental indicator targets for human exposures and toxic releases to groundwater, looking toward final cleanup, taking advantage of redevelopment opportunities, and cleaning up Federal facilities, maintaining strong partnerships with all relevant stakeholders will continue to be a priority for the program in FY 2004.

The Agency will continue to work on challenges that face the program and will implement further administrative reforms if necessary to help address them. Groundwater issues present very specific challenges, associated with, for example, the extent and severity of the contamination, complex technical and associated policy issues, and the expense of groundwater cleanups. Also, many of the high priority facilities that have not yet met the environmental

indicator goals are extremely large and complicated sites that may not make progress in cleanups at the same pace as those facilities that have already met the goals. Furthermore, our ongoing work in 2002 and 2003 has continued to demonstrate that contamination in groundwater can be a threat to people in ways beyond impacts to their drinking water supplies. These issues, as well as others related to defining “completion” of cleanup and implementing institutional controls, continue to surface during stakeholder meetings EPA hosted across the country. EPA will continue working in partnership with the stakeholders to further explore these areas.

In FY 2004, the Agency will place added emphasis and resources on providing technical assistance to facilities still working toward FY 2005 indicator goals and on moving facilities toward final cleanup. To do so the Agency will work in partnership with the authorized states and the regulated community to resolve policy and technical issues, such as those associated with setting subsequent and final cleanup goals for groundwater, indoor air exposures, and groundwater-to-surface water pathways. Since there is not a one-size-fits-all approach to cleanups, working partnerships will allow all parties to fully explore flexible, common sense approaches.

In support of the revitalization theme, the Agency will capitalize on the results of the RCRA Brownfields Pilots by applying the lessons learned on a wider scale in order to facilitate cleanup and redevelopment of RCRA Brownfields sites. By sharing the innovations demonstrated through those pilots, others may learn of new approaches that are appropriate for or adaptable to their situations. EPA will continue the Targeted Site Effort (TSE) and the RCRA Brownfields program to help “break the logjams” at sites that have significant redevelopment/reuse potential. In many cases, the efforts undertaken to date have influenced facility owners or operators and the local communities to pursue redevelopment as a primary objective of the cleanups.

In FY 2004, the Agency will devote special attention to Federal facilities being cleaned up under RCRA authorities. The Agency and the authorized states have worked with our Federal partners to more effectively communicate cleanup goals and facilitate Federal facilities’ cleanups. For example, the Agency will foster dialogue with the authorized states and the Federal facility community to explore such topics as innovative approaches to cleanups and regulatory flexibility. Lessons learned through pilot programs in other industries will be applied to Federal facilities, leading to greater efficiencies in cleanups.

Training and outreach are integral parts of the corrective action program’s activities. The way program implementors and the regulated community do business, and the way in which the public participates in the cleanup decisions made in their communities has been positively influenced through the reforms. The Agency will build on its successes, further promote flexibility in program implementation and continue to encourage more frequent communications among all parties.

## 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 fall within this objective. A draft Multi-Year Plan for Contaminated Sites Research has been developed to ensure that research conducted under this objective is relevant to EPA's mission. Also, a Waste Research Strategy was externally peer reviewed and released in 1999 to provide a clear rationale for selection and prioritization of waste research activities. In addition, to maximize the quality of the research conducted under this objective, all scientific and technical work products must undergo either internal or external peer review, with major or significant products requiring external peer review.

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, persistent bioaccumulative toxics (PBTs), and volatile organic chemicals; 2) the potential for multiple routes of exposure to humans and wildlife; and 3) the large number of contaminated sites, many of which cover large areas, resulting in high exposure to ecological systems. Contamination of groundwater and sediments are also of considerable concern due to their importance for human and ecological health, and have been identified as high priority research needs by the Agency. The extent and geological, biological and chemical complexity of many of these sites present uncertainties in determining risk, as well as in finding effective, low-cost techniques for site characterization and remediation.

#### *Groundwater, Soils and Containment*

The Agency's Contaminated Sites Research Program addresses effects, exposure, risk assessment, and risk management in order to understand the processes that govern contaminant transport and fate, site characterization, and risk assessment and management. The program also assesses and develops remediation and characterization/monitoring technologies and evaluates their cost-effectiveness.

In FY 2004, exposure research will continue on the high priority, complex problem of determining dense non-aqueous phase liquid (DNAPL) location and concentration in groundwater. Several non- or minimally-intrusive geophysical techniques are being developed and evaluated to define subsurface geology, delineate the location and distribution of contaminants, and monitor remediation, yielding a greater ability to make sound waste management decisions. Additionally, new and innovative samplers for DNAPL-contaminated groundwater monitoring will be evaluated. A major product will include a report on 3-D interpretation of complex geologic structures via ground penetrating radar to map spilled DNAPLs.

Exposure research will also focus on the improved collection of soils contaminated with volatile organic compounds (VOCs). This work will provide guidance and techniques to improve soil sample collection, handling, preservation, storage, and analysis to ensure that the most representative samples (i.e., samples that provide accurate, unbiased, and precise information on the true distribution and concentration levels of soil contamination) will be collected at any given waste site. Research will also continue in measurement design and decision analysis to improve sampling strategies and statistical procedures for cost-effective site characterization, to reduce total sample error and uncertainty, and to better interpret data

State-of-the science preparation, separation, and analytical methods are also being developed for rapid, accurate, field and laboratory analyses of soils, sediments, ground water and biological materials contaminated with VOCs, polychlorinated biphenyls (PCBs), poly-aromatic hydrocarbons (PAHs), pesticides, and inorganics. This work supports Superfund risk assessments and clean-up decisions. Bioanalytical approaches will be developed for faster and more cost-effective screening and monitoring of hazardous substances. Immunochemical methods will also be developed and applied for rapid on-site characterization and monitoring of remediation efficiency and effectiveness at Superfund sites for PCBs, PAHs, pesticides, and inorganics. Major products for FY 2004 will include reports on a rapid turn-around screening method for Aroclors, mixtures of PCBs, identification and quantification in multiple media, and on vacuum distillation for VOC analyses.

Risk assessment research focuses on both human and ecological health and aids in the determination of risk management options as well as characterization of contaminants. Human health risk assessment research involves developing methodologies, models, and factors that enable risk assessors to develop more accurate quantitative estimates of the likelihood of harm that may result from various contaminated media. Major areas of emphasis for FY 2004 will include: developing statistical distributions for exposure factors; further refining and validating the biokinetic models for lead and other toxic metals; developing better models and methods for dermal exposure; and completing health and exposure assessments for specific 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 biologically "available" to wildlife. In FY 2004, this research will continue to develop 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 will address priority remediation problems in groundwater and soils, helping to reduce human and ecosystem exposure to hazardous materials by making remediation more efficient and cost-effective. This research evaluates and improves existing remediation techniques and develops new clean-up processes.

In the area of groundwater remediation research, the Agency plans to continue work on characterizing dense non-aqueous phase liquid (DNAPL) contaminant source zones and on treatment and natural attenuation of inorganic contamination. DNAPLs are a major cause of organic groundwater contamination for which there are few effective commercialized remediation options. In FY 2004, EPA plans to continue work on a systems approach to DNAPL-site cleanup, combining multiple treatment technologies to move toward site closure. Research will investigate enhanced in situ approaches to remediate recalcitrant organic compounds. Research on the use of thermal treatment and flushing processes to address DNAPL source zones will also continue.

Research will continue on the remediation of dissolved inorganic plumes, particularly toxic metals, and related source areas. Field studies on monitored natural attenuation (MNA) of dissolved metals will continue, as will studies of the application of permeable reactive barriers (PRBs) to new metal contaminants such as arsenic and mercury. PRBs are an in-situ alternative

approach for remediating groundwater contamination that combine subsurface fluid flow management with a passive chemical treatment zone. Major areas of emphasis in FY 2004 will be long-term performance of PRBs, work on better methods for solid-phase characterization in support of MNA, and research on applying PRBs cost-effectively to other contaminants or environments.

Hazardous substance containment research evaluates the effectiveness of current containment systems and develops new systems using innovative materials and methods. Research areas include caps, covers, and vertical barriers for the vadose zone (i.e., the transition zone between the land surface and the water table); fixed barriers; phytoremediation methods for contaminated plumes and infiltration control; and soil contaminant immobilization. In FY 2004 research will focus on completion of field evaluations of capping options and continuation of evaluations of bottom liner options and alternative cover systems, and fugitive emissions from Superfund landfills. Research on the immobilization of metals (e.g., cadmium) in soils will also continue.

### *Contaminated Sediments*

The National Research Council identified contaminated sediments as a top research need. EPA has responded to this need on several fronts, including developing a Contaminated Sediments Action Plan and a draft Agency-wide Contaminated Sediments Science Plan. In addition to these plans, the Agency has created an integrated research program on contaminated sediments risk assessment, exposure, effects, and risk management issues to address priority research needs for the assessment and cleanup of sites.

This research will focus on four important goals distilled from recommendations made by the National Academy of Sciences and EPA's Science Advisory Board including: (1) develop scientific models and protocols that better define the risks to human health and the environment; (2) develop new cleanup alternatives and methods that better evaluate which cleanup alternatives are most effective; (3) develop and conduct monitoring techniques to document the actual performance of cleanup technologies; and (4) develop better methods and tools to increase community involvement in cleanup activities.

In FY 2004, EPA will continue activities on dermal contact and fish ingestion exposure pathways. Estimates will be made of the amount of sediment that may come into contact with skin from various activities. Exposure models and factors will be developed that accurately predict the amount of contaminated fish and game that might be consumed, with particular focus on the fish-eating habits of sensitive sub-populations such as subsistence fishermen, certain ethnic groups, and disadvantaged communities. Dermal work associated with soils is gradually shifting to focus on contaminated sediments research and will focus on sediment contact and chemical release.

Research will also investigate the effects of contaminated sediments on the environment, aiding in the development of risk assessments. Efforts will focus on sediments contaminated with persistent, bioaccumulative toxics (PBTs), in the context of the three primary remediation options: natural recovery, capping, and dredging. Approaches will be developed that predict the biological uptake of chemicals from sediments, movement through the food web, and the effects



on top predator fish and fish-eating wildlife. To understand the ecological significance of potential toxic effects, the impacts on critical populations of fish-consuming species will be assessed. These efforts will include understanding the effects of both freshwater and marine contaminated sediments. In FY 2004, products will include approaches to long term ecological monitoring to assess the effectiveness of contaminated sediment remediation at the New Bedford Harbor, MA Superfund site as well as to parameterizing bioaccumulation models for metabolized chemicals.

Contaminated sediments risk management research will study currently available remediation options, such as dredging and dredged material disposition, natural recovery, and capping. This work will expand to additional sites in order to understand the cost-effectiveness and short- and long-term ecological impacts of these options. Contaminants of concern include polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and metals. This work will provide EPA and other stakeholders with better information for making scientifically sound cleanup decisions. Products will include a technical resource document on monitored natural recovery for contaminated sediments and three additional sets of remedy performance data.

Contaminated sediments characterization and monitoring research will continue on ecological tools for characterization as well as pre- and post-remediation toxicity assessments and bioassessments. Soil VOC work will gradually shift to sediments research for improved sampling and characterization techniques to accurately determine contaminant types, locations, and concentrations in sediments. Research will also continue to evaluate existing contaminated sediment mass fate and transport models and develop new modules for models for different classes of water bodies that address sediment-related needs of OSWER and the Regions. Finally, research on community involvement will focus on developing ways to measure community preferences and incorporate societal/cultural values into the decision making process.

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

Research to assess and reduce or control risks to human health and the environment from contaminated sites is conducted through the Hazardous Substance Research Centers (HSRCs) program. Additionally, EPA's Superfund Innovative Technology Evaluation (SITE) program fosters the development and use of lower cost and more effective characterization and monitoring technologies and risk management remediation technologies for contaminated sediments, soils, and groundwater in order to better protect human health and the environment. The Agency also supports efforts to assess and reduce or control risks from oil spills and leaking underground storage tanks.

In FY 2004, the Agency will continue to support the Hazardous Substance Research Centers (HSRCs): five multi-university centers focusing on different aspects of hazardous substance management. They bring together researchers from a variety of disciplines to collaborate on research projects of high importance to the Agency (e.g., contaminated sediments). Ongoing communication between EPA and HSRC researchers that began in FY 2002 will continue in FY 2004.

The goal of the SITE program is to identify, demonstrate, assess, and distribute information about innovative and alternative environmental technologies to developers, remediation site managers, and regulators, yielding more efficient characterization and remediation processes. In FY 2004, the Agency will initiate studies of technologies dealing with priority remediation and characterization problems, including sediments and DNAPLs.

In FY 2004, 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 on navigable waterways. Efforts will continue on adapting the oil spill model for Orimulsion™, a fossil fuel produced from natural components. Research will also focus on the use of bioremediation on inland waterway spills, improving chemical countermeasures, and evaluating the fate of non-petroleum products (e.g., vegetable oils) spilled on surface waters. In FY 2004, final reports on protocols for evaluating surface washing agents and spills of opportunity will be produced.

Leaking underground storage tanks (LUST) corrective action research looks at cleanup processes for fuels and fuel oxygenates, like methyl tertiary butyl ether (MTBE). This work results in a better understanding of naturally occurring subsurface processes that degrade fuel components; reliable indicators to measure natural attenuation; and models and resource documents to predict the likelihood of site-specific natural attenuation effectiveness. Studies on modeling of contaminant transport and fate, and on oxygenate degradation processes will be integrated to better understand how oxygenates behave in the subsurface. Emphasis will be placed on developing inexpensive techniques that can be implemented in the near-term to address control and treatment of MTBE-contaminated sites.

### *Technical Support*

Technical support activities in risk management and risk assessment associated with contaminated sites will also continue in the form of support centers. These centers include the Environmental Photographic Interpretation Center (EPIC), the Ground Water Technical Support Center, and the Superfund Health Risk Technical Support Center. These centers provide site-specific technical support, responses to scientific questions (e.g., human health and environmental toxicity), and technology transfer documents to program offices and other stakeholders.

The Hazardous Substance Technical Liaison (HSTL) Program provides and facilitates technical support to the Regions in waste related areas. This program fosters communications- especially the transfer of scientific and engineering products-between ORD Laboratories and the Regions and provides direct assistance by applying their expertise in a variety of technical areas.

### **FY 2004 Change from FY 2003 Request**

#### Multi-Appropriation

- (STAG +\$10,000,000, EPM +\$754,100) An increase of \$10,000,000 has been provided in STAG to enhance the States' Brownfields Response Programs (Voluntary Cleanup Program (VCPs) and Targeted Brownfield Assessments (TBAs)). Additional resources have been provided for payroll, cost of living, and enrichment for existing FTE.

## Superfund

- (+\$150,000,000) This increase will address growing construction project resource needs. The Agency will use these resources to begin new construction projects at high priority sites. The Agency expects to demonstrate significant progress in reducing risk to human health and the environment and revitalizing the number of construction completions at NPL sites within two to three years.
- (+\$8,358,800, +15.0 FTE) An increase of \$6,800,000 has been provided to create and firmly establish a National Decontamination Team (Decon Team) that provides a unique, immediate response capabilities to safely and effectively support decontamination activities related to chemical, biological, and/or radiological terrorism events. While focused domestically, the Decon Team may respond worldwide delivering scientific and engineering expertise for the decontamination of buildings, building contents, public infrastructure, indoor environments and the associated environmental media. An additional \$1,558,800 has been provided for payroll, cost of living, and enrichment for 15 FTE.
- (+\$7,000,000) EPA's field response capability relies on enhancements necessary to support infrastructure such as specialized equipment stockpiles and laboratory support. The Agency will continue to enhance its equipment support by identifying state-of-the-art detection, monitoring, and response equipment designed to address chemical, biological, and radiological agents.
- ( +\$7,452,600 + 25.1 FTE) Adjustments in resource allocations reflect changes to existing distribution accounts to support Capital Planning and Investment Control (CPIC) projects in the amount of \$1.4 million. In addition, two new distribution accounts were also established in FY 2004 to improve allocation of regional Financial Services costs (\$3.0 million) and headquarters Intergrated Financial Management Systems costs (\$3.1 million).
- (+\$1,717,900, +13.6 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE.)*
- (+\$1,342,600, 12.4 FTE) This change represents the distribution of resources for Regional Information Management across all Regions.

## Research

- (+\$2,455,300, +21.9 FTE) These redirected workyears will support Homeland Security building decontamination research focusing on methods and technologies for 1) detection and containment of biological and chemical agents intentionally introduced into large buildings/structures, 2) decontamination of building surfaces, furnishings, and equipment, and 3) safe disposal of residual materials. All of these workyears will be funded out of the Superfund transfer account in FY 2004. Formerly, 14.6 FTE resided in the S&T account in the Air, Water, Safe Food, and Sound Science goals.
- (+\$103,700, +1.0 FTE) This increase is to support the Hazardous Substance Technical Liaison (HSTL) program. This program provides and facilitates technical support to the Regions in waste related areas.
- (-\$67,444,400) The work conducted with the \$5.6M requested for Building Decontamination research in FY 2004 will build upon work begun with the \$73.1M requested in the FY 2003 President's Budget. Work will continue to focus on methods and technologies for 1) detection and containment of biological and chemical agents intentionally introduced into large buildings/structures, 2) decontamination of building surfaces, furnishings, and equipment, and 3) safe disposal of residual materials.
- (-\$239,900, -2.3 FTE) These workyears are being redirected within Objective 5.1 to support Homeland Security. As a result, the number of screening assays for revealing the location, source, and concentration of pollutants will be reduced.

## EPM

- (-\$1,511,500, -11.3 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE.)*
- (+\$1,500,000) This funding level provides additional resources for EPA's participation in the Disaster Assistance e-Government initiative.
- (+\$700,000) This increase supports additional RCRA corrective action activities to help us meet the Agency's performance goals in this area. These resources are redirected from completion of guidance and listing determinations in the RCRA program from Objective 2.

## S&T

- (+\$2,697,100, +2.0 FTE) An increase of \$2,500,000 has been provided for an improved system that will allow increased preparedness for and response to terrorist threats and other incidents. The proposed request will expand and upgrade existing radiation monitoring system (ERAMS) to increase reliability and population coverage, as well as include a deployable component that can be sent to impacted areas immediately after notification. The response time and data dissemination of the fixed monitoring system would be significantly better than that of the existing monitoring system, and the population coverage of the upgraded system would be significantly better - approximately 60 percent versus 24 percent - than the population coverage of the existing fixed monitoring system. It would take approximately three years to realize the full increase of 36 percent to the population coverage. In addition, the resource request will allow for: 1) greater density of sampling locations near and downwind from incidents; and 2) maintenance and calibration of deployable monitoring stations. An additional \$197,100 has been provided in for payroll, cost of living, and enrichment for 2 FTE.

With additional funding and personnel, a telemetry system will be implemented to communicate data from the National Monitoring System stations and Radiological Emergency Response Team field monitoring locations to a central site where the database would be operational. The database will provide radiation data in the event of a terrorist or other type of radiological incident to Agency decision-makers and the public. Without additional funding the telemetry system will not be available requiring manual input of data from the field sites. Also the database would not be fully functional and would not be able to provide all the data needed to support quick decision making in the event of an emergency.

## STAG

- (-\$8,000,000) The Homestake Mine is not carried forward to FY 2004.
- There are additional increases in payroll, cost of living, and enrichment for new and existing FTE.

## **GOAL: BETTER WASTE MANAGEMENT, RESTORATION OF CONTAMINATED WASTE SITES, AND EMERGENCY RESPONSE**

## **OBJECTIVE: CONTROL RISKS FROM CONTAMINATED SITES AND RESPOND TO EMERGENCIES**

### **Annual Performance Goals and Measures**

#### **Superfund Cost Recovery**

- |         |   |
|---------|---|
| In 2004 | 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 2003 | 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 2002 The goal was met. Cost recovery was addressed at 204 NPL and non-NPL sites of which 101 had total past costs greater than or equal to \$200,000 and potential statute of limitations (SOL) concerns. EPA secured cleanup and cost recovery commitments from private parties in excess of \$645 million.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
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	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 Participation**

In 2004 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 2003 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 2002 In FY 2002 the percentage of remedial construction starts initiated by responsible parties exceeded the target by one percent.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
PRPs conduct 70% of the work at new construction starts	71	70	70	Percent

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

**Tribal Cleanup Assistance**

In 2004 Increase Tribal cleanup capabilities and assist Tribes in addressing threats from releases.

In 2003 Increase Tribal cleanup capabilities and assist Tribes in addressing threats from releases.

In 2002 41 leaking underground storage tanks were cleaned up. 8 Superfund site assessments conducted at sites of concern to Tribes. Tribes were actively involved in 28.6% of the sites that are of concern to Tribes.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of leaking underground storage tank cleanups in Indian Country.	41	45	45	cleanups
Number of Tribes supported by Brownfields cooperative agreements.			no target	Tribes
Percentage of Superfund sites that are of concern to Tribes where a Tribe is actively involved.	28.6	no target	no target	percent

Baseline: By the end of FY 2002, 573 leaking underground storage tank cleanups were completed in Indian Country. Baselines for Superfund and Brownfields activities are under development.

**Assess and Cleanup Contaminated Land**

In 2004 Assess waste sites.

In 2004 Clean up and reduce risk at waste sites.

In 2003 Assess waste sites.

In 2003 Clean up and reduce risk at waste sites.

In 2002 Human exposures to toxins were controlled at 172 RCRA facilities and toxic releases to groundwater were controlled at 171 RCRA facilities. 15,769 leaking underground storage tank cleanups were completed, and 4 Superfund construction completions were achieved.

In 2002 Superfund initiated 426 removal actions and recorded 587 site assessment decisions, and the Brownfields program assessed 983 properties.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of leaking underground storage tank cleanups completed.	15,769	22,500	21,000	cleanups
Number of Superfund final site assessment decisions.	587	475	475	assessments
Number of Superfund removal response actions initiated.	426	275	350	removals
Number of Superfund construction completions.	42	40	40	completions
Number of Superfund hazardous waste sites with human exposures controlled.		10	10	sites
Number of Superfund hazardous waste sites with groundwater migration controlled.		10	10	sites
Number of Brownfields properties assessed.	983	1,000	1,000	assessments
Number of properties cleaned up using Brownfields funding.			no target	properties
Number of high priority RCRA facilities with human exposures to toxins controlled.	205	257	180	facilities
Number of high priority RCRA facilities with toxic releases to groundwater controlled.	171	172	150	facilities

Baseline: By FY 2002, there have been 7,119 Superfund removal response actions initiated, 37,669 final Superfund site assessment decisions, and 2,824 Brownfields properties assessed. (Brownfields assessment data reflects accomplishments up to the 3rd quarter of FY 2002.) There is a baseline count of 1,199 Superfund sites with human exposures controlled and 772 Superfund sites with groundwater migration controlled. FY 2002 actuals showed 1018 RCRA facilities with human exposures to toxins controlled and 877 RCRA facilities with toxic releases to groundwater controlled; 284,602 leaking underground storage tank cleanups. Baseline data for Brownfields cleanup loans and grants will be developed in FY 2003.

### Revitalize Properties

- In 2004 Create jobs through revitalization efforts.
- In 2004 Leverage or generate funds through revitalization efforts.
- In 2004 Make Brownfields property acres available for reuse or continued use.
- In 2003 Create jobs through revitalization efforts.
- In 2003 Leverage or generate \$0.9 B through revitalization efforts.
- In 2002 \$0.7 billion of cleanup and redevelopment was leveraged.
- In 2002 2,091 jobs were generated from Brownfields activities.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Estimated number of Brownfield property acres available for reuse or continued use.			no target	acres
Number of jobs generated from Brownfields activities.	2091	2,000	5,000	jobs
Number of Brownfields job training participants trained.			200	participants
Percentage of Brownfields job training trainees placed.		65	70	trainees placed
Amount of cleanup and redevelopment funds leveraged at Brownfields sites.	\$0.7B	\$0.9B	\$1.0B	funds

Baseline: By the end of FY 2002, the Brownfields program had generated 19,646 jobs, provided job training to 913 individuals, placed an average of 65% of job training participants, and leveraged a total of \$6.7 billion. Data reported for FY 2002 reflect accomplishments up to the 3rd quarter of FY 2002.

### Homeland Security - Readiness & Response

- In 2004 Enhance Homeland Security readiness and response.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percentage of emergency response and homeland security			10%	readiness

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request
-----------------------	--------------------	-----------------------	--------------------

readiness improvement.

Baseline: In accordance with the EPA strategic plan, a baseline will be established in FY 2003.

**Research**

**Scientifically Defensible Decisions for Site Clean**

- In 2004 Provide risk assessors and managers with site-specific data sets on three applications detailing the performance of conventional remedies for contaminated sediments to help determine the most effective techniques for remediating contaminated sites and protecting human health and the environment.
- In 2003 To ensure cost -effective and technically sound site clean-up, deliver state-of-the-science reports and methods to EPA and other stakeholders for risk management of fuel oxygenates; organic and inorganic contamination of sediments, ground water and/or soils; and oil spills.
- In 2002 EPA provided evaluation information on six innovative approaches that reduce human health and ecosystem exposure from dense nonaqueous phase liquids (DNAPLs) and methyl tertiary butyl-ether (MTBE) in soils and groundwater, and from oil and persistent organics in aquatic systems.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Complete draft of the FY 2002 Annual SITE Report to Congress.	1	1		draft report
Reports on performance data for conventional sediment remedies for three sites.			3	reports

Baseline: Much of the controversy over selecting remedies for contaminated sediment sites arises because the effects and effectiveness of the remedies is not well documented. Congress identified this issue when it directed EPA to have the National Academy of Science conduct a study of the "...availability, effectiveness, costs, and effects of technologies for the remediation of sediments contaminated with polychlorinated biphenyls (PCBs), including dredging and disposal." The resulting National Research Council (NRC) report included a major recommendation that "Long-term monitoring and evaluation of PCB-contaminated sediment sites should be conducted to evaluate the effectiveness of the management approach and to ensure adequate, continuous protection of humans and the environment." In FY 2004, EPA will complete data sets on implementing and monitoring remedies in order to help reduce the uncertainty associated with remedy selection and to identify the methods that efficiently chart remedy performance over time.

**Homeland Security -Building Decontamination Research**

- In 2004 Provide to building owners, facility managers, and others, methods, guidance documents, and technologies to enhance safety in large buildings and to mitigate adverse effects of the purposeful introduction of hazardous chemical or biological materials into indoor air.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Prepare ETV evaluations on at least 5 new technologies for detection, containment, or decontamination of chemical/biological contaminants in buildings to help workers select safe alternatives.			5	verifications
Through SBIR awards, support as least three new technologies/methods to decontaminate HVAC systems in smaller commercial buildings or decontaminate valuable or irreplaceable materials.			3	techs/methods
Prepare technical guidance for building owners and facility managers on methods/strategies to minimize damage to buildings from intentional introduction of biological/chemical contaminants.			9/30/04	guidance

Baseline: Anthrax contamination and the extensive clean-up efforts in postal facilities plus several other government and commercial buildings emphasized the need for improved methods to enhance security against terrorist activities in buildings and provide additional options for cleaning up buildings. EPA's two-year plan focuses on research, development, testing, and communication of enhanced methods for detection and containment of biological and chemical warfare agents and toxic industrial chemicals intentionally introduced into large buildings. This plan also addresses decontamination of building surfaces, furnishings, and equipment, with safe disposal of residual materials. Every effort is being made to coordinate EPA's work with other government agencies, to avoid redundancy and to maximize the utility of this work. With the FY 2004 building



decontamination research, emergency responders, building owners/managers, and decontamination crews will have information, including guidance documents and technology evaluations, needed to enhance safety in buildings and to mitigate adverse effects of the purposeful introduction of hazardous chemicals or biological materials into indoor air.

## **Program Assessment Rating Tool**

### Leaking Underground Storage Tanks

As part of the Administration's overall evaluation of effectiveness of Government programs, the Leaking Underground Storage Tanks program was evaluated with the following specific findings:

1. The program purpose, to clean up leaking underground storage tanks, is clearly defined and is understood by states and other stakeholders.
2. The program is well managed, but would benefit from regular independent evaluations and a systematic process to review strategic planning.
3. Strategic planning is particularly critical to this program since it has already achieved its current long term goal and has no new long-term goal to challenge program managers. EPA may finish the backlog of 140,000 cleanups within the next decade. In the future, a smaller program may be suitable to address the lesser number of new releases that occur every year.
4. The program appears to be successful, as evidenced by achieving the goals of its authorizing legislation: cleanup of releases and upgrading tanks. However, the program scores poorly on the results section since it has no outcome based performance metrics that demonstrate an impact on people and the environment.

In response to these findings, the Administration will:

1. Continue to clean storage tank sites at a rapid pace.
2. Develop outcome measures that will test the link between the activities of the program and the impact on human health and the environment.

### Superfund Removal

As part of the Administration's overall evaluation of effectiveness of Government programs, the Superfund Removal program was evaluated with the following specific findings:

1. The program's purpose, to perform emergency cleanup of hazardous materials, is very clearly defined and understood by states and stakeholders.
2. The program would benefit from regular independent evaluations and a systematic process to review strategic planning.
3. The program meets its targets for number of removals each year, an output measure. However, the program scores poorly on the Results/Accountability section since

it has no outcome based performance metrics that demonstrate the extent of the impact on public health and the environment.

4. There are no efficiency measures and the development requires overcoming significant data issues, namely, poor historic data quality in EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database.

In response to these findings, the Administration will:

1. Propose funding at the 2003 President's Budget level.
2. Develop outcome oriented measures that test the linkage between program activities and the impact on human health and the environment.
3. Improve data quality in the CERCLIS database.

### **Verification and Validation of Performance Measures**

#### **FY 2004 Performance Measures:**

- **Superfund Construction completions**
- **Number of Superfund removal response actions initiated**
- **Number of Superfund final site assessment decisions**
- **Number of Superfund hazardous waste sites with human exposures controlled**
- **Number of Superfund hazardous waste sites with groundwater migration controlled**
- **Number of Superfund site assessments conducted at sites that are of concern to Tribes**
- **Number of Tribes supported by Superfund cooperative agreements**
- **Amount of Superfund funding provided for building Tribal capacity**
- **Percentage of Superfund sites that are of concern to Tribes where a tribe is actively involved**

**Performance Database:** The Comprehensive Environmental Response, Compensation, and Liability System (CERCLIS) is the database used by the Agency to track, store, and report Superfund site information.

**Data Source:** Automated EPA system; headquarters and regional offices enter data into CERCLIS on a rolling basis.

**Methods, Assumptions and Suitability:** Each performance measure is a specific variable within CERCLIS.

**QA/QC Procedures:** To ensure data accuracy and control, the following administrative controls are in place: 1) Superfund/Oil Implementation Manual (SPIM), the program management manual that details what data must be reported; 2) Report Specifications, which are published for each report detailing how reported data are calculated; 3) Coding Guide, which contains technical instructions to such data users as regional Information Management Coordinators (IMCs), program personnel, report owners, and data input personnel; 4) Quality Assurance (QA) Unit Testing, an extensive QA check against report specifications; 5) Regional CERCLIS Data Entry Internal Control Plan, which 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 (6) a historical lockout feature that has been added to CERCLIS so that changes in past fiscal year data can be changed only by approved and designated personnel and are logged to a change-log report.

**Data Quality Reviews:** 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), dated December 30, 1997, was prepared to verify the accuracy of the information that the Agency was providing to Congress and the public. 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.” Further information on this report are available at <http://www.epa.gov/oigearth/erom.htm>. The GAO’s report, *Superfund Information on the Status of Sites* (GAO/RECD-98-241), dated August 28, 1998, was prepared to verify the accuracy of the information in CERCLIS on sites’ cleanup progress. The report estimates that the cleanup status of National Priority List sites reported by CERCLIS as of September 30, 1997, is accurate for 95% of the sites. Additional information on the *Status of Sites* may be obtained by visiting <http://www.gao.gov>. A third OIG audit, *Information Technology - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality* (Report No. 2002-P-00016), dated September 30, 2002, evaluated the accuracy, completeness, timeliness, and consistency of the data entered into CERCLIS. The weaknesses identified were caused by the lack of an effective quality assurance process and adequate internal controls for CERCLIS data quality. The report provided 11 recommendations to improve controls for CERCLIS data quality. OSWER concurs with the recommendations contained in the audit. Due to the extended period of time since the inception of this audit, many of the identified problems have been corrected or actions that would address these recommendations are underway. Additional information about this report is available at <http://www.epa.gov/oigearth/erom.htm>.

The IG reviews annually the end-of-year Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) data, in an informal process, to verify the data supporting the performance measures. Typically, there are no published results.

The Quality Management Plan (QMP) for the Office of Solid Waste and Emergency Response (OSWER) is currently under review by the Office of Environmental Information.

**Data Limitations:** Weakness were identified in the OIG audit, *Information Technology - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality* (Report No. 2002-P-00016), dated September 30, 2002. The weaknesses identified were caused by the lack of an effective quality assurance process and adequate internal controls over CERCLIS data quality. The report provided 11 recommendations with which OSWER concurs. Many of the identified problems have been corrected or actions that would address these recommendations are underway, e.g., 1) FY 02/03 SPIM Chapter 2 update; 2) draft guidance from OCA subgroup and 3) Pre-CERCLIS Screening: A Data Entry Guide. The development and implementation of a quality assurance process for CERCLIS data is planned to begin February 2003 which will clearly delineate quality assurance responsibilities and periodically select random samples of CERCLIS data elements and verify the data to source documents in site files.

**Error Estimate:** The GAO's report, *"Superfund Information on the Status of Sites"* (GAO/RECD-98-241), dated August 28, 1998, estimates that the cleanup status of National Priority List sites reported by CERCLIS is accurate for 95% of the sites.

**New/Improved Data or Systems:** In 2004, 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 into CERCLIS. Efforts to share information among the Federal, state, and Tribal programs to further enhance the Agency's efforts to efficiently identify, evaluate and remediate Superfund hazardous waste sites will continue. In 2005 the Agency will also establish data quality objectives for program planning purposes and to ascertain the organization's information needs for the next 5 years. Adjustments will be made to EPA's current architecture and business processes to better meet those needs. A CERCLIS modernization effort is currently underway to enhance CERCLIS with a focus on data collection and data analysis and how to best satisfy the current needs of the Superfund program. The Superfund eFacts system is a vital part of the CERCLIS modernization efforts. The Superfund eFacts system is an e-Government solution design to give EPA management and staff quick and easy access to important milestones relating to various aspects of the Superfund program.

**References:** References include OIG audit reports, *Superfund Construction Completion Reporting*, (No. E1SGF7\_05\_0102\_ 8100030) and *Information Technology - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality*, (No. 2002-P-00016), <http://www.epa.gov/oigearth/erom.htm>; and the GAO report, *Superfund Information on the Status of Sites* (GAO/RECD-98-241), <http://www.gao.gov>. Other references include the Superfund/Oil Implementation Manuals for the fiscal years 1987 to the current manual and the Annual Performance Report to Congress.

**FY 2004 Performance Measures:**

- **Number of Brownfields properties assessed**

- **Number of jobs generated from Brownfields activities**
- **Number of Brownfields job training participants trained**
- **Percentage of Brownfields job training trainees placed**
- **Amount of cleanup and redevelopment funds leveraged at Brownfields sites**

**Performance Database:** The Brownfields Management System (BMS) contains the performance information identified in the above measures.

Key fields related to performance measures include:

- AP 5 - Number of Properties with Assessment Completed with Pilot Funding
- AP 11 - Number of Cleanup/Construction Jobs Leveraged
- AP 12 - Number of Cleanup Dollars Leveraged
- AP 13 - Number of Redevelopment Jobs Leveraged
- AP 14 - Number of Redevelopment/Construction Dollars Leveraged
- JT 2 - Number of Participants Completing Training
- JT 3 - Number of Participants Obtaining Employment

**Data Source:** Data are extracted from quarterly reports prepared by Cooperative Agreement Award Recipients

**Methods, Assumptions and Suitability:**

- Methods: Cooperative Agreement Award Recipients submit reports quarterly on project progress. Data relevant to the performance measures are extracted from quarterly reports by EPA contractor. Data are forwarded to Regional Pilot managers for review. Following Regional review, data are finalized.
- Assumptions: “Number of jobs generated from Brownfields activities” is the aggregate of the “Number of redevelopment jobs leveraged” and the “Number of cleanup/construction jobs leveraged.” “Amount of cleanup and redevelopment funds leveraged at Brownfields sites” is the aggregate of “Number of Cleanup Dollars Leveraged” and the “Number of Redevelopment/Construction Dollars Leveraged.” “Percentage of Brownfields job training trainees placed” is based on the “Number of Participants Completing Training” and the “Number of Participants Obtaining Employment.”

**QA/QC Procedures:** Data reported by cooperative award agreement recipients are reviewed by Regional Pilot managers for accuracy and to ensure appropriate interpretation of key measure definitions. Reports are produced monthly with detailed trends analysis.

**Data Quality Reviews:** None.

**Data Limitations:** All data provided voluntarily.

**Error Estimate:** N/A

**New/Improved Data or Systems:** The Brownfields Management System (BMS) is being migrated from a FoxPro to an oracle database.

**References:** N/A

**FY 2004 Performance Measures:**

- **High priority RCRA facilities with human exposures to toxins controlled**
- **High priority RCRA facilities with toxic releases to groundwater controlled**

**Performance Database:** The Resource Conservation Recovery Act Information System (RCRAInfo) is the national database which supports EPA's RCRA program.

**Data Source:** Data is entered by the States. 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. EPA regions and authorized states enter data on a rolling basis.

**Methods, Assumptions and Suitability:** RCRAInfo has several different modules, including a Corrective Action Module that tracks the status of facilities that require, or may require, corrective actions. 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. Human exposures controlled and toxic releases to groundwater controlled are used to summarize and report on the facility-wide environmental conditions at the RCRA Corrective Action Program's highest priority facilities. The environmental indicators are used to track the RCRA program's progress in getting highest priority contaminated sites under control. Known and suspected sitewide 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 a memorandum titled: Interim Final Guidance for RCRA Corrective Action Environmental Indicators, Office of Solid Waste, 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.

**QA/QC Procedures:** States and Regions generate the data and manage data quality 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 that 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 generation 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.

Note: Access to RCRAInfo is open only to EPA Headquarters, Regional, and authorized State personnel. It is not available to the general public because the system contains enforcement sensitive data. The general public is referred to EPA's Envirofacts Data Warehouse to obtain filtered information on RCRA-regulated hazardous waste sites: [oaspub.epa.gov/enviro/ef\\_home2.waste](http://oaspub.epa.gov/enviro/ef_home2.waste)

**Data Quality Review:** GAO's 1995 Report on EPA's Hazardous Waste Information System (<http://frwebgate.access.gpo.gov/>) reviewed whether national RCRA information systems support EPA and the states in managing their hazardous waste programs.

**Data Limitations:** No data limitations have been identified. As discussed above, environmental indicator determinations are made by the authorized states and EPA regions based on a series of standard questions and entered directly into RCRAInfo. EPA has provided guidance and training to states and regions to help ensure consistency in those determinations. High priority facilities are monitored on a facility-by-facility basis and the QA/QC procedures identified above are in place to help ensure data validity.

**Error Estimate:** N/A. Currently, the Office of Solid Waste does not collect data on estimated error rates.

**New/Improved Data or Systems:** EPA has successfully implemented new tools for managing 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. RCRAInfo allows for tracking of information on the regulated universe of RCRA hazardous waste handlers, such as facility status, regulated activities, and compliance history. The system also captures detailed data on the generation of hazardous waste from large quantity generators and on waste management practices by 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 using commercial off-the-shelf software to develop reports from database tables.

**References:** GAO's 1995 Report on EPA's Hazardous Waste Information System reviewed whether national RCRA information systems support EPA and the states in managing their hazardous waste programs. Recommendations coincide with ongoing internal efforts (WIN/Informed) to improve the definitions of data collected, ensure that data collected provide critical information and minimize the burden on states. This historical document is available on the Government Printing Office Website (<http://frwebgate.access.gpo.gov/>)

#### **FY 2004 Performance Measures:**

- **Number of leaking underground storage tank cleanups completed**

- **Number of leaking underground storage tank cleanups in Indian Country**

**Performance Database:** The Office of Underground Storage Tanks (OUST) does not maintain a national database. There is a new performance measure (estimated number of leaking underground storage tank site acres available for reuse or continued use). In FY 2004, OUST will begin to implement this new measure.

**Data Source:** Designated State agencies submit semiannual progress reports to the EPA regional offices. The new measure will require modification to the existing database systems to track the new measure rather than create a new database.

**Methods, Assumptions and Suitability:** N/A

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

**Data Quality Review:** None.

**Data Limitations:** Data quality is dependent on the accuracy and completeness of state records.

**Error Estimate:** N/A

**New/Improved Data or Systems:** None.

**References:** FY 2002 End-of-Year Activity Report, December 22, 2002 (updated semi-annually).

**FY 2004 Performance Measure: Tribes evaluated for RCRA Subtitle C management needs**

**Performance Database:** There is no database for this measure.

**Data Source:** Various formats reported to headquarters from EPA Regional offices.

**Methods, Assumptions and Sustainability:** A variety of data collection methods are used for tracking this measure. Some EPA Regions visit Tribal lands and map RCRA facility locations with global positioning satellite tools while other Regions conduct "desk top" evaluations based on information reported to them by Tribal governments within their Region. Headquarters assumes that EPA Regional programs are reporting accurate information.

**QA/QC Procedures:** Data will be reviewed by Tribal governments reported to have hazardous waste management needs.

**Data Quality Review:** Data will be reviewed by Tribal governments reported to have hazardous waste management needs.



**Data Limitations:** “Desk top” evaluations may miss hazardous waste management needs for Tribes that have not reported their concerns to EPA Regional offices. Each EPA Region office may employ different definitions for what constitutes a “hazardous waste management need.”

**Error Estimate:** N/A.

**New/Improved Data or Systems:** Concurrent with this performance measure, the Agency will continue its efforts to clarify what types of hazardous waste management needs exist throughout Indian Country, including an identification of where EPA has direct implementation requirements for the regulation of RCRA facilities. Ultimately, information gathered from this effort may help improve the RCRAInfo database system.

**References:** [oaspub.epa.gov/enviro/ef\\_home2.waste](http://oaspub.epa.gov/enviro/ef_home2.waste); refer to EPA’s Envirofacts database for information on RCRA-regulated hazardous waste sites on Tribal lands.

**FY 2004 Performance Measure: Purchase and Deploy State-of-the-Art Monitoring Units**

**Performance Database:** Output measure. Data from the National Radiation Monitoring System will be stored in an internal EPA database operated by the National Air and Radiation Environmental Laboratory (NAREL) in Montgomery, Alabama. EPA monitors for radiation to provide data for nuclear emergency response assessments; to provide data on ambient levels of radiation in the environment for baseline and trend analysis; and to inform the general public and public officials.

**Data Source:** National Radiation Monitoring System. Monitoring units will be located in the 60 largest population centers in the United States. Criteria for locating monitoring units, other than based on population, will include whether an area is at high risk for a nuclear emergency or if it is near to another population center (e.g., Dallas and Fort Worth).

**Methods, Assumptions and Suitability:** N/A

**QA/QC Procedures:** N/A

**Data Quality Reviews:** N/A

**Data Limitations:** N/A

**Error Estimate:** N/A

**New/Improved Performance Data or Systems:** N/A

**References:** Information about the continuous monitoring system, ERAMS, is available on the Internet: <http://www.epa.gov/narel/erams/aboutus.html#mission>

**FY 2004 Performance Measure (PM): 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; headquarters and EPA's regional offices enter data into CERCLIS

**Methods, Assumptions and Suitability:** The data used to support this measure are collected on a fiscal year basis only. Enforcement reports are run at the end of the fiscal year, and the data that supports this measure are extracted from the report.

**QA/QC Procedures:** Office of Site Remediation Enforcement (OSRE) Quality Management Plan, approved April 11, 2001. To ensure data accuracy and control, the following administrative controls are in place: 1) Superfund/Oil Implementation Manual (SPIM), a program management manual that details what data must be reported; 2) Report specifications, which are published for each report detailing how reported data are calculated; 3) Coding Guide, which contains technical instructions to such data users as regional Information Management Coordinators (IMCs), program personnel, report owners, and data input personnel; 4) Quality Assurance (QA) Unit Testing, an extensive QA check against report specifications; 5) QA Third Party Testing, an extensive test made by an independent QA tester to ensure that the report produces data in conformance with the report specifications; 6) Regional CERCLIS Data Entry Internal Control Plan, which 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 that has been added to CERCLIS so that changes in past fiscal year data can be changed only by approved and designated personnel and are logged to a change-log report.

**Data Quality Review:** The IG annually reviews the end-of-year CERCLA data, in an informal process, to verify the data supporting the performance measure. Typically, there are no published results.

**Data Limitations:** None

**Error Estimate:** N/A

**New/Improved Data or Systems:** None

**References:** Office of Site Remediation Enforcement (OSRE) Quality Management Plan, approved April 11, 2001

**FY 2004 Congressional Performance Measure (PM): 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; headquarters and regional offices enter data into CERCLIS

**Methods, Assumptions and Suitability:** There are no analytical or statistical methods used to collect the information. The data used to support this measure is collected on a fiscal year basis only. Enforcement reports are run at the end of the fiscal year, and the data that supports this measure is extracted from the report.

**QA/QC Procedures:** Office of Site Remediation Enforcement (OSRE) Quality Management Plan, approved April 11, 2001. To ensure data accuracy and control, the following administrative controls are in place: 1) Superfund/Oil Implementation Manual (SPIM), a program management manual that details what data must be reported; 2) Report Specifications, which are published for each report detailing how reported data are calculated; 3) Coding Guide, which contains technical instructions to such data users as regional Information Management Coordinators (IMCs), program personnel, report owners, and data input personnel; 4) Quality Assurance (QA) Unit Testing, an extensive QA check against report specifications; 5) QA Third Party Testing, an extensive test made by an independent QA tester to ensure that the report produces data in conformance with the report specifications; 6) Regional CERCLIS Data Entry Internal Control Plan, which 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 that has been added to CERCLIS so that changes in past fiscal year data can be changed only by approved and designated personnel and are logged to a change-log report.

**Data Quality Review:** The IG annually reviews the end-of-year CERCLA data, in an informal process, to verify the data supporting the performance measure. Typically, there are no published results.

**Data Limitations:** None

**Error Estimate:** N/A

**New/Improved Data or Systems:** None

**References:** Office of Site Remediation Enforcement (OSRE) Quality Management Plan, approved April 11, 2001.

**FY 2004 Performance Measure:** Reports on performance data for conventional sediment remedies for three sites.

**Performance Database:** Program output; no internal tracking system

**Data Source:** N/A

**Methods, Assumptions and Suitability:** N/A

**QA/QC Procedures:** N/A

**Data Quality Reviews :** Reports

**Data Limitations :** N/A

**Error Estimate:** N/A

**New/Improved Data or Systems :** N/A

**References:** N/A

**FY 2004 Performance Measure: Prepare Environmental Technology Verification (ETV) evaluations on at least 5 new technologies for detection, containment, or decontamination of chemical/biological contaminants in buildings to help workers select safe alternatives.**

**Performance Database:** Program output; no internal tracking system

**Data Source:** N/A

**Methods, Assumptions and Suitability:** N/A

**QA/QC Procedures:**

Verifications consist of the following steps:

1. based on generic verification protocols if available, the specific test/QA plan for each product is developed and agreed to by EPA, the testing partner, and the vendors;
2. the product is tested using the procedures outlined in the test/QA plan;
3. audits of the test event are conducted by EPA and the partners, and rigorous QA evaluations of the resulting test data are performed;
4. after testing and analysis, the partner drafts the verification statements and reports which are reviewed by EPA, the participating vendors, and peer reviewers; and
5. after addressing review comments and receiving approval from EPA management, EPA and the partner sign the verification statements.

**Data Quality Reviews :** Verifications

**Data Limitations :** N/A

**Error Estimate:** N/A

**New/Improved Data or Systems :** N/A

**References:** N/A

**FY 2004 Performance Measure:** Through SBIR awards, support at least three new technologies/methods to decontaminate HVAC systems in smaller commercial buildings or decontaminate valuable or irreplaceable materials.

**Performance Database:** Program output; no internal tracking system

**Data Source:** N/A

**Methods, Assumptions and Suitability:** N/A

**QA/QC Procedures:** N/A

**Data Quality Reviews :** SBIR awards

**Data Limitations :** N/A

**Error Estimate:** N/A

**New/Improved Data or Systems :** N/A

**References:** N/A

**FY 2004 Performance Measure:** Prepare technical guidance for building owners and facility managers on methods/strategies to minimize damage to buildings from intentional introduction of biological/chemical contaminants.

**Performance Database:** Program output; no internal tracking system

**Data Source:** N/A

**Methods, Assumptions and Suitability:** N/A

**QA/QC Procedures:** N/A

**Data Quality Reviews :** Guidance

**Data Limitations :** N/A

**Error Estimate:** N/A

**New/Improved Data or Systems :** N/A

**References:** N/A

## **Coordination with Other Agencies**

### LUST

EPA, with very few exceptions, does not perform the cleanup of 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 awarded by EPA are directly given 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, in close consultation and coordination with EPA, essential services in areas where the Agency does not possess the specialized expertise. Currently, EPA 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 FUDs 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 through 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 partners with other Federal agencies, state and local governments, and private industry to fulfill Superfund program priorities when a site is radioactively contaminated. Under CERCLA, radioactively contaminated sites are addressed in a manner consistent with how chemically contaminated sites are addressed, accounting for the technical differences. The Radiation program provides radiological scientific and technical expertise and leadership in evaluating projects and providing field and laboratory support.

### Brownfields

In November 2002, EPA Administrator Christine Todd Whitman announced the Brownfields Federal Partnership Action Agenda. This involves 23 Federal agencies contributing resources and technical assistance to Brownfields redevelopment. Federal resources include: 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.

EPA and these other Federal agencies will continue to provide active support for Brownfields activities across the country in FY 2004. To augment the success of the Brownfields Federal Partnership and its efforts to clean up and redevelop Brownfields properties, the Agency and its Federal partners continue to revise and enter 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. 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.

## 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. EPA expects states 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 states their progress set in meeting the corrective action environmental indicator goals.

Encouraging states to become authorized for the RCRA Corrective Action program remains a priority. Currently, thirty-nine states and territories have the authority to implement the program. EPA expects several additional states to gain authorization in the next one to two years. EPA also encourages states 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, which have many sites in the corrective action universe. Encouraging Federal facilities to meet environmental indicators remains a top priority.

## Research

EPA expends substantial effort coordinating with other agencies to conduct risk management and assessment research. These activities include work with the Department of Defense (DOD) in its Strategic Environmental Research and Development Program and the Environmental Security Technology Certification Program, the Department of Energy (DOE), and the Office of Health and Environmental Research. EPA also conducts collaborative field demonstrations (e.g., through the SITE program) and laboratory research with DOD, DOE, the Department of Interior (particularly the U.S. Geological Survey - USGS), and the National Aeronautics and Space Administration (NASA) to improve characterization and risk management options for dealing with subsurface contamination. Collaborations with external organizations provide the Agency with more opportunity to understand and address a variety of 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. A collaborative DNAPL remediation alternatives demonstration among EPA, DOE, and NASA, begun in 1995, led to formation of the Federal DNAPL Technology Initiative.

Other research efforts involving coordination include the unique controlled-spill field research facility that 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 Lawrence Berkeley National Laboratory. These experiments include the use of a controlled spill unit in which solvents can be spilled and their subsequent movement is monitored using experimental ground penetrating radar, borehole dielectric techniques, complex resistivity, seismic techniques, and electromagnetic techniques.

The USGS also has a number of programs, such as the Toxic Substances Hydrology Program, that support studies related to contamination of surface water and groundwater by hazardous materials. Groundwater modeling and remediation of MTBE is being conducted in collaboration with a number of states, including New York, Oklahoma, and California. Also, Remediation Technology Development Forum (RTDF) teams 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 also 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. Also, the Agency for Toxic Substances and Disease Registry (ATSDR) was established to provide critical health-based information to assist EPA in making effective cleanup decisions. EPA works with these agencies on collaborative projects, information exchange, and identification of research issues.

The Interstate Regulatory Cooperative (ITRC) has proven a good forum for coordinating Federal and state activities and for defining continuing research needs through its teams on topics including contaminated sediments, permeable reactive barriers, radionuclides, and brownfields.

### **Statutory Authorities**

Solid Waste Disposal Act as amended by Hazardous and Solid Waste Amendments of 1984 to the Resource Conservation and Recovery Act of 1976

The Small Business Liability Relief and Brownfields Revitalization and Environmental Restoration Act (Public Law 107-118) authorized the cleanup of petroleum sites.

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

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

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

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

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

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

#### Research

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

Resource Conservation and Recovery Act (RCRA)

Oil Pollution Act (OPA)

Brownfields Revitalization and Environmental Restoration Act

## Environmental Protection Agency

### FY 2004 Annual Performance Plan and Congressional Justification

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

**Objective:** 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)

	<b>FY 2002 Actuals</b>	<b>FY 2003 Pres. Bud.</b>	<b>FY 2004 Request</b>	<b>FY 2004 Req. v. FY 2003 Pres Bud</b>
Regulate Facilities to Prevent Releases	\$164,641.2	\$167,261.2	\$168,479.9	\$1,218.7
Environmental Program & Management	\$100,715.9	\$103,863.6	\$103,187.8	(\$675.8)
Hazardous Substance Superfund	\$251.7	\$226.3	\$232.5	\$6.2
Oil Spill Response	\$13,292.0	\$14,166.0	\$14,789.4	\$623.4
Science & Technology	\$11,021.0	\$9,548.7	\$10,782.0	\$1,233.3
State and Tribal Assistance Grants	\$39,360.6	\$39,456.6	\$39,488.2	\$31.6
Total Workyears	754.9	800.4	791.6	-8.8

#### Key Program (Dollars in Thousands)

	<b>FY 2002 Enacted</b>	<b>FY 2003 Pres. Bud.</b>	<b>FY 2004 Request</b>	<b>FY 2004 Req. v. FY 2003 Pres Bud</b>
Civil Enforcement	\$1,512.0	\$1,538.6	\$1,588.2	\$49.6
Community Right to Know (Title III)	\$4,968.4	\$4,953.1	\$5,018.3	\$65.2
Compliance Assistance and Centers	\$264.8	\$271.4	\$279.9	\$8.5

	<b>FY 2002 Enacted</b>	<b>FY 2003 Pres. Bud.</b>	<b>FY 2004 Request</b>	<b>FY 2004 Req. v. FY 2003 Pres Bud</b>
Congressionally Mandated Projects	\$2,100.0	\$0.0	\$0.0	\$0.0
Facilities Infrastructure and Operations	\$9,712.1	\$10,182.4	\$10,066.3	(\$116.1)
Hazardous Waste Research	\$9,088.3	\$9,548.7	\$10,782.0	\$1,233.3
Homeland Security-Preparedness, Response and Recovery	\$7.0	\$0.0	\$0.0	\$0.0
Legal Services	\$2,451.1	\$2,633.3	\$2,728.1	\$94.8
Management Services and Stewardship	\$2,135.7	\$2,316.8	\$1,573.8	(\$743.0)
Oil Spills Preparedness, Prevention and Response	\$11,795.4	\$12,332.2	\$12,897.5	\$565.3
Planning and Resource Management	\$0.0	\$0.0	\$449.1	\$449.1
RCRA Improved Waste Management	\$61,174.6	\$61,860.0	\$61,050.3	(\$809.7)
RCRA State Grants	\$27,538.2	\$27,538.2	\$27,538.2	\$0.0
Radiation	\$7,000.5	\$7,519.3	\$7,407.9	(\$111.4)
Regional Management	\$177.8	\$176.4	\$507.2	\$330.8
Risk Management Plans	\$7,202.9	\$7,446.0	\$7,489.9	\$43.9
UST State Grants	\$11,918.4	\$11,918.4	\$11,950.0	\$31.6
Underground Storage Tanks (UST)	\$6,795.7	\$7,026.4	\$7,153.2	\$126.8

## **FY 2004 Request**

### Underground Storage Tank Program

FY 2004 marks the 20th anniversary of the enactment of RCRA Subtitle I, acknowledging the problem of leaking underground storage tanks and the beginning of the Federal underground storage tank (UST) program. In FY 2004, the Agency's goal for the UST program is to protect our nation's groundwater by continuing to work in partnership with states to promote compliance with regulatory requirements to prevent, detect, and address releases from Federally-regulated USTs containing petroleum and hazardous substances. While the vast majority of the approximately 698,000 active tanks have the proper equipment, significant work remains to ensure UST owners and operators properly maintain and operate these USTs. The Agency's primary role is working with states to promote compliance with leak detection, spill, overfill, and corrosion protection requirements and ensuring that compliance with these

requirements are emphasized as a national priority. The Agency's role extends to 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. The Agency will build upon its work with states to achieve improved compliance, to decrease the number of confirmed releases reported annually by states, and to revise the definition of significant operational compliance in order to produce more accurate and nationally consistent data regarding compliance with UST requirements. It is expected that all states will have full-scale implementation of the revised definition in FY 2004. Additionally, EPA is consolidating the two existing significant operational compliance measures into one measure which will further impact the projected baseline and targets. The consolidation of the two measures into one overall measure will provide a better picture of compliance. As a result, an appropriate baseline and target for the significant operational compliance measure will not be available until FY 2005. In the interim, by the end of FY 2003, preliminary results from a pilot initiated in FY 2002 to evaluate the revised definition and consolidated measures are expected. The Agency will work with states to obtain commitments to increase their inspection and enforcement presence if state-specific targets are not met. The Agency and the states will use innovative outreach and education tools such as multi-site agreements with Federal, state, municipal, Tribal, or private UST owners to bring more tanks into compliance. An example of a multi-site agreement is when a single tank owner with multiple sites agrees to bring all sites into compliance and keep them in compliance. The Agency will also provide technical assistance tools, improved guidance and training to UST owners, operators and inspectors to foster improved operational compliance with the requirements and to decrease the number of confirmed releases reported annually by states.

In FY 2004, the Agency will update available information about the performance of new or upgraded UST systems to determine how well existing systems are preventing and detecting releases, analyze leak autopsy data to quantify the frequency of releases by source and cause, foster long-term efforts to further analyze the performance of UST systems, and identify any needed options for improving performance. While the Federal and state UST requirements have led to substantially improved UST systems and fewer new releases, some releases from newer tanks continue to occur, as reported by the states. The Agency will continue to partner with states such as Florida and South Carolina and vendors of third party UST monitoring systems to determine the most common sources (e.g., UST system dispensers) and causes of releases from new and upgraded UST systems, as well as evaluate the performance of leak detection. Comparisons between UST components (e.g., steel vs. fiberglass tanks) and between single-walled and double-walled systems will be evaluated. Based on a 1998 EPA Report to Congress, A National Water Quality Inventory, releases from USTs are the leading cause of groundwater contamination in the country. The presence of methyl-tertiary-butyl-ether (MTBE) in gasoline increases the importance of preventing and rapidly detecting releases because MTBE cleanup can cost 100 percent more than cleanups involving other gasoline contaminants.

In FY 2004, 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.

### Chemical Emergency Preparedness and Prevention

The Agency's chemical emergency preparedness and prevention program seeks to decrease the risks associated with the manufacture, transportation, storage and use of hazardous chemicals. The program is primarily responsible for implementing the Risk Management Program authorities of the Clean Air Act, and the emergency preparedness authorities of the Emergency Planning and Community Right-to-Know Act (EPCRA). The program also implements right-to-know initiatives stemming from EPCRA, to inform the public about chemical hazards and supports actions at the local level to reduce risk. The cornerstone of the program is a belief that the operators of facilities who have hazardous chemicals are primarily responsible for the safe handling of those chemicals. In addition, since the risks posed by these facilities are local issues, state and local governments (as well as the community) play a critical role in risk reduction.

All Americans benefit from an effective chemical safety program because hazardous chemical substances are virtually everywhere and chemical accidents are an ever-present danger. EPA estimates that nationwide over 500,000 facilities have significant quantities of hazardous chemicals (subject to EPCRA requirements). The facilities subject to the RMP reported over 1,900 chemical release accidents of significance over the past five-year period involving deaths, injuries, significant property/environmental damage and/or evacuations/shelter-in-place.

### Assisting Facilities with Their Responsibilities

Section 112(r) of the Clean Air Act requires approximately 15,000 facilities to develop comprehensive risk management plans (RMPs) and submit them to EPA, State agencies, and local emergency planning committees (LEPCs). Through this 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.

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 it will reach its goal of 90% compliance by the end of FY 2003. Because the statute requires RMPs to be updated every five years facilities will submit the next round of RMPs by June 21, 2004. This will increase the number of RMPs submitted to the Agency by over 10,000 reports over the previous year. This will be the first time the Agency has received such a volume of updates, and will need to manage and screen the reports in a volume similar to the initial reports in 1999.

The requirements of the Risk Management Program regulations were built on practices currently used in many industries for process safety management. Each RMP describes the process safety management systems used by a facility for preventing accidents and documents the facilities' compliance with the regulation. A program priority in FY 2004 will be to audit the quality of the risk management plans submitted, while continuing to look for facilities that have not submitted their RMPs.

The Clean Air Act requires EPA to establish a system to audit RMPs. The audit system is used to continuously improve the quality of risk management programs as well as check compliance with the requirements. EPA regional offices will continue to manage RMP programs in those states that have not accepted delegation. In FY 2004, the Agency and other implementing agencies will perform its audit obligations through a combination of desk audits of RMP plans and on-site facility inspections. A total of 400 audits will be conducted during this period. 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 and enforcement priority. Financial incentives may also exist via the participation of insurance company representatives as third party auditors (lower premiums). EPA intends to have the third party audit program operational in FY 2004.

In FY 2004, in the regulatory area, the program expects to complete the second phase of streamlining EPCRA's reporting requirements and will complete regulatory action on changes resulting from a statutorily required review of the RMP chemicals list. This review is intended to improve the scientific basis for listing chemicals, and add or delete chemicals based on the technical criteria for listing chemicals under the program.

### Building State and Local Capabilities

One of EPA's vital roles is to help communities implement accident prevention and emergency preparedness programs. LEPCs (3,400, established under EPCRA) serve as the focal point for discussions on reducing chemical risks at the local level. Under the EPCRA and RMP programs, LEPCs take chemical inventory information, and information on how facilities are reducing the risk of accidents, and integrate it into their emergency plans and community right-to-know programs. In FY 2004, EPA will support LEPC efforts by providing tools, technical assistance and guidance to better enable them to use the information to reduce risks. EPA will also continue an initiative to improve and enhance emergency preparedness and prevention in Tribal communities.

State Emergency Response Commissions (SERCs) and LEPCs also play a key role in the defense against terrorism. These state and local entities serve as focal points at the local level for emergency preparedness, prevention and response activities. They are responsible for bringing together all local emergency personnel and organizations (e.g., police, fire departments, first responders, emergency planners, public health officials, hospitals, emergency technicians, industry local officials, and the news media) to develop comprehensive community plans for

dealing with the release of hazardous substances. Since September 11 SERCs and LEPCs have been tasked with assessing the hazards associated with the intentional release of chemical, biological and radiological substances and developing plans to deal with them. In FY 2004 EPA will assist SERCs and LEPCs in identifying streams of funding and provide assistance to help them secure the resources they need. EPA also supports the new Citizen Corps program and in FY 2004 will continue efforts in coordination to encourage LEPCs to consider acting as local Citizen Corp.

Under the chemical accident prevention program, EPA, in partnership with States, will promote implementation of the RMP program. The Agency believes individual States are best suited to implement the program because they benefit directly from its success. 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 FY 2004 goal is to persuade 2 additional states to manage an RMP program, which would bring the total number of authorized states to 20.

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. The training will be offered extensively throughout the country in FY 2004.

#### Continuous Learning to Improve Safety

In FY 2004, EPA will continue to initiate ways of improving safety by studying hazards and providing outreach to industry, government and the public to enhance application of chemical safety measures. The program focuses on lessons learned from accidents and issues case studies and chemical safety alerts to reduce the risk of future accidents.

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, since September 11, 2001, EPA has taken the RMP information off of its website, although it may still exist on other websites. This requires EPA to perform more analyses and searches for the public. In addition, since over 10,000 RMPs will be updated around June 21, 2004 for the first time, this will provide EPA with the opportunity to analyze trends and improvements in facilities' RMP.

#### *Relationship with Chemical Safety Board*

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 require 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 2004 EPA expects to



continue activities of responding to CSB recommendations that result from investigations. For example, EPA is currently 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.

### 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 into navigable waters, adjoining shorelines, and exclusive economic zones of the United States. Based on data obtained from the National Response Center, 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 465,000 EPA-regulated oil storage facilities and the entire oil transportation network. Oil spills contaminate drinking water supplies; cause fires and explosions; kill fish, birds, and other wildlife; destroy habitats and ecosystems; and impact the food chain. There are also serious economic consequences of oil spills because of their impact on commercial and recreational uses of water resources and cleanup costs.

The oil spill program prevents, prepares for, responds to, and monitors oil spills. EPA protects U.S. waters through oil spill prevention, preparedness, and enforcement activities associated with the 415,000 non-transportation-related oil storage facilities EPA regulates through its pollution prevention program. In addition to its pollution prevention responsibilities, EPA serves as the lead responder for the inland zone for all spills, including non-transportation-related 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 obtain reimbursement for 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. The Spill Prevention, Control, and Countermeasures (SPCC) regulation and the Facility Response Plan (FRP) regulation chiefly compose EPA's regulatory framework. The oil spill program is also responsible for publishing the National Product Schedule and subpart J of the NCP, which is a listing of dispersants, other chemicals, and other spill mitigating devices that may be used during response to oil discharges.

All regulated oil storage facilities must prepare SPCC plans. These facilities range from hospitals and apartment complexes storing heating oil to large tank farms, any oil storage facility with an aggregate aboveground storage capacity greater than 1,320 gallons, or completely buried storage greater than 42,000 gallons (not otherwise subject to the UST program requirements). An additional 600 facilities will be in compliance with SPCC provisions in FY 2004 as a result of EPA's activities, for a cumulative total of 4,095 facilities since 1997. 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 FY 2004, EPA will review a small number of FRPs. These EPA reviews are triggered by a large spill, a spill at a particularly high-risk facility, or poor performance during an oil response exercise.

EPA also develops area contingency plans (ACPs), in conjunction with area communities (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 FY 2004, EPA will continue efforts to implement the SPCC regulation. EPA revised the SPCC regulations to reflect a more performance-based rule that emphasizes industry standards. The revised regulation became effective on August 16, 2002. This approach represents a comprehensive overhaul of the basic regulatory structure of the current oil spill prevention program. In response to concerns that additional time will be required to comply with the revised regulatory requirements, EPA has initiated a formal one-year extension of the SPCC compliance deadlines. The Agency is conducting active outreach efforts to the regulated community, as well as, state and local governments, Tribal communities, and environmental groups, concerning industry compliance with the new SPCC regulation. The outreach also includes an intensive effort to respond to the numerous daily inquiries to the Oil Program staff at headquarters and the regional offices concerning the new SPCC regulation. Now that the regulation is effective, the Agency must begin training the workforce of inspectors and other staff involved in its implementation. This also includes the development of training materials and exercises to assist in compliance and enforcement of the many revisions in the new regulation. 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 six and a half years (1996 through the 3<sup>rd</sup> quarter of FY 2002), EPA has received and evaluated approximately 65,000 oil spill notifications in the inland zone and served either as lead responders or monitored/directed responsible party, state and local government oil spill response actions at approximately 2,088 oil spill incidents.

### Radiation Waste Management

The Radiation program will continue to set priorities in waste management, clean material, and risk assessment, to reduce the risk to the public of excessive radiation. One of EPA's major radiation-related responsibilities is to 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 WIPP began receiving waste for permanent disposal in 1999. Every five years, EPA must recertify the WIPP's compliance with applicable environmental laws and regulations. In FY 2004, EPA expects to receive DOE's compliance documentation and initiate the WIPP's first recertification.

EPA will continue implementing the clean materials program by working with other Federal agencies, state agencies, and international organizations to prevent metals and finished products suspected of having radioactive contamination from entering the country. EPA will also work with states, local agencies and Tribes to locate and secure lost, stolen, or abandoned radioactive sources within the United States.

EPA will continue to evaluate human health and environmental risks from radiation exposure. EPA is implementing its strategy to address Technologically Enhanced Naturally Occurring Radioactive Material (TENORM) by developing and compiling sector-specific technical information, by interacting with Regional offices and Tribal governments on educational and clean-up efforts, and by exploring ways to partner with governmental and non-governmental interests.

### 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. The RCRA program, working in partnership with states, industry, and Tribes, reduces the risk of human exposures to hazardous, industrial nonhazardous, and municipal solid wastes. Our most current information shows that each year communities generate approximately 230 million tons of municipal solid waste and that industries generate 40 million tons of industrial hazardous waste (not including wastewater) and more than 7.6 billion tons of industrial nonhazardous waste (including wastewater in surface impoundments).

A combination of regulations, permits, voluntary standards and programs help to ensure safer management of these various wastes. New contaminated waste sites, possibly Superfund sites, could result from mismanagement of these wastes threatening nearby communities. In FY 2004, the RCRA program will focus on improving current waste management practices, providing greater regulatory flexibility where appropriate and promoting opportunities for converting waste to energy, in support of the Resource Conservation Challenge.

The purpose of the RCRA program is to help reduce the risk of exposures to dangerous hazardous wastes by maintaining a "cradle-to-grave" waste management framework. This framework regulates the handling, transport, treatment, storage, and disposal of hazardous waste. The main vehicle for hazardous waste program implementation is the issuance of RCRA hazardous waste permits, which mandate appropriate controls for each site. To date, 48 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 hazardous waste program, including regulations that address waste management issues contained in permits, are important goals. State Program Authorization provides the states with primary RCRA implementation and enforcement authority, reduces overlapping and dual implementation by the states and EPA, provides the regulated community with one set of regulations, reduces overall Federal enforcement presence in the states, and can provide the opportunity for some of the newer less stringent RCRA regulations to be implemented by the states. In FY 2004, by using Express Authorization, states will greatly reduce the time and paper work currently required to receive authorization. The RCRA program will continue its strong partnerships with the Regions and states to eliminate the greatest impediments to State Program Authorization.

In a rulemaking designed to simplify the permitting process for lower-risk treatment and storage facilities, the Agency proposed standardized permit procedures. EPA anticipates promulgating the final rule in FY 2003. In FY 2004, the RCRA program plans to give guidance and training on the standardized permit rule and implementation of the rule will begin. In

addition, the program is investigating the feasibility of an e-permitting initiative in partnership with the states. Ideally this initiative will encourage and facilitate states in expediting and simplifying the permitting process and provide better public access to permitting information.

In addition to making changes in the permitting process, the Agency looks to improve all other aspects of waste management throughout 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.

During FY 2004, the Agency will assess whether additional hazardous waste identification work remains, identify priorities, and initiate necessary changes through non-regulatory or regulatory approaches that ensure protection of human health and the environment.

In line with efforts to better calibrate risk and regulatory standards, the Agency will continue work on developing targeted exemptions from the hazardous waste mixture and derived-from rules in FY 2004. We will identify priorities for additional targeted exemptions as well as review potential changes to existing exemptions.

In FY 2004, the Agency will continue work on a final rule establishing a consistent national approach for managing used industrial wipes, shop towels and rags containing hazardous solvents. As part of this effort, we will initiate development of implementation guidance to assist the thousands of small businesses, which routinely use these particular materials.

Another area where waste management practices can be improved involves the transportation from the generator to a treatment, storage or disposal facility, a step the hazardous waste manifest system regulates and tracks. A rule proposed in May 2001 for major manifest system changes is intended to greatly reduce the paperwork burdens on waste handlers and authorized states, while improving the effectiveness of tracking waste shipments. In FY 2003, the Agency expects to finalize the manifest form changes supported by both industry and states. In FY 2004, EPA will continue this effort by developing standards and systems for preparing, signing, and transmitting manifests electronically.

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. Maximum achievable control technology (MACT) standards for hazardous waste burning incinerators, cement kilns and light-weight aggregate kilns were vacated by the U.S. Court of Appeals for the District of Columbia Circuit. The Agency must respond to the court's decision with a revised regulatory and implementation strategy. Technical assistance will be critical during the next few years to ensure appropriate controls over these major sources of hazardous air pollutants. The Agency must also develop MACT standards for hazardous waste burning boilers and hydrochloric acid production furnaces in order to meet statutory obligations under the Clean Air Act (CAA).

In support of the Resource Conservation Challenge, EPA will improve and expand activities designed to recover materials and energy from waste. In FY 2002, EPA proposed rule changes to promote the use of petroleum wastes as raw material in gasification processes, which produce cleaner gas fuels. In FY 2003, the Agency will finalize the proposed rule for petroleum streams and consider changes that also encourage the gasification of a broader range of hazardous waste streams. In FY 2004, EPA will consider establishing partnerships with the Department of Energy, industry, and states and municipalities to facilitate the application of gasification technology. Potentially, this effort could turn as much as 3 million tons of hazardous waste, and larger amounts of solid and industrial waste, into cleaner energy.

In January 2003 EPA launched the “Coal Combustion Products Partnership,” a voluntary cooperative effort to increase the beneficial use of products from coal combustion, which would otherwise require disposal. This increased use will lead to greenhouse gas reductions, save disposal costs, and conserve landfill space. EPA and its industry partners will challenge generators and potential users of coal combustion products to increase their beneficial use, share technical information and expertise, and provide recognition for successes.

Beginning in FY 2003 and continuing into FY 2004, the Agency will implement its strategy for revising its landfill criteria. Revisions will provide additional flexibility for states and the regulated community. Additionally, revisions will provide for bioreactor technology as a future energy source. Studies have indicated that bioreactor landfill technology results in a significant increase in landfill gas emissions over a short period of time. These landfill gases consist primarily of methane and carbon dioxide. Landfill gas may represent an opportunity for gas collection and beneficial reuse for projects such as energy recovery. Currently, the use of landfill gas for energy applications is about 10% of its potential. Application of the controlled bioreactor technology to 50% of the waste currently being landfilled could provide over 270 billion cubic feet of methane yearly, sufficient to supply 1% of the U.S. electrical needs based on the U.S. Department of Energy estimates.

The use of biomass as a renewable resource for bio-based products and bio-energy can result in additional farm income, as well as less reliance on foreign energy sources, such as oil. Currently, bio-based products and the bio-energy industry remain small and fragmented. In FY 2004, EPA will continue to work with USDA, DOE and states to coordinate and promote a unified national bio-energy strategy.

The Agency also works to reduce risks from industrial non-hazardous waste, also known as Industrial D waste. Manufacturing facilities generate and dispose of 7.6 billion tons of industrial non-hazardous waste each year. The voluntary “Guide for Industrial Waste Management” was developed in partnership with state officials, industry and environmental representatives and issued in FY 2003. In FY 2004, EPA will continue the partnership efforts by assisting facility managers, state and Tribal regulators, and the interested public in utilizing the Guide. This will also be a period when EPA will identify any aspect of the Guide that needs clarification or modification to improve the usefulness to all our environmental partners.

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 FY 2004, the Agency will

continue its leadership role in 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 both municipal and hazardous waste management capacity.

Since 1999, the Interagency Workgroup has provided over \$6.0 million to thirty-one Tribes to clean up open dumps and to develop solid waste management programs. Another round of awards is scheduled in FY 2003. In addition, the Agency has developed specific conferences, education programs and outreach tools on solid and hazardous waste issues targeted toward Native Americans.

### Research

To support the Agency's objective of managing active waste management facilities to prevent contaminant releases into the environment, the Agency will conduct research in multimedia science, waste management, and RCRA corrective action as well as perform technical support activities. Research under this objective supports the Agency's need for research in all of these areas to build a strong scientific foundation for regulatory reforms and, thereby, supports the Agency's mission to protect human health and the environment. A draft Multi-Year Plan for Active Waste Management research has been developed to ensure that research conducted under this objective is relevant to EPA's mission. Also, a Waste Research Strategy was approved and released in 1999 to provide a clear rationale for selection and prioritization of waste research activities. In addition, to maximize the quality of the research conducted under this objective, all scientific and technical work products must undergo either internal or external peer review, with major or significant products requiring external peer review.

### *Multimedia Science*

In FY 2004, the Agency will work to advance the multimedia modeling and uncertainty/sensitivity analyses methodologies that support core RCRA program needs as well as emerging RCRA needs in resource conservation. The EPA Science Advisory Board (SAB) review of the multimedia modeling effort in support of core RCRA needs (to be completed in FY03) will constitute an important milestone in determining future directions for this research effort. In response to emerging RCRA needs in resource conservation, EPA will develop multimedia science approaches for evaluating the potential for contaminant releases resulting from the beneficial reuse of waste-derived products. This research effort will have broad applicability and benefit to other programs' multimedia risk assessments as well. Finally, EPA's multimedia science effort is coordinated with other Federal entities through a multi-agency MOU, the goal of which is to enhance coordination in the development of reliable risk assessment methods and technologies.

Some specific research efforts to be undertaken in FY04 include: development of more comprehensive uncertainty and sensitivity analyses capability, development of visualization technology, implementation of a software toolset for model parallelization on clustered PCs, and

support for sampling design for model input data collection.

### *Waste Management*

A number of significant technical problems remain related to waste management, such as arsenic treatment, treatment residual disposal, use of landfill bioreactors to manage municipal solid waste, and combustion. Certain hazardous waste disposal techniques need to be reevaluated and improved to ensure releases are minimized. The ability to predict waste releases depends on the ability of leaching protocols to accurately reflect the waste environment and matrix effects. Research will continue to define the role of leaching tests and protocols, and to document their limitations.

In the area of municipal solid waste management, EPA is collaborating with the private sector to conduct field evaluations of the performance of landfill bioreactors and with states to develop a monitoring program to optimize operations and minimize emissions. Landfill bioreactors can potentially provide alternative energy in the form of landfill gas while increasing the nation's landfill capacity. In FY 2004, EPA will conduct field sampling and monitoring of several landfill bioreactors, continue the characterization of the microbiology of bioreactor cells, and initiate a bioreactor design manual. Results of these efforts will include an interim field assessment of a landfill bioreactor system. In conjunction with drinking water research in Goal 2, research will continue on hard-to-treat wastes that focus on the characterization and treatment of arsenic-bearing residuals. Leaching studies also will continue on arsenic-bearing wastes, mine process wastes, and municipal solid wastes, including those in bioreactors.

Another aspect of waste management research involves hazardous waste combustion, and technical support through the Combustion Technical Assistance Center (CTAC). Efforts in this area address industrial combustion systems burning waste. Emissions from these facilities remain a public concern and a number of uncertainties about them exist, including the cumulative impact of continuous emissions from multiple combustion facilities. In FY 2004, work on continuous emissions monitors will continue with a focus on dioxins and other products of incomplete combustion (PICs).

### *RCRA Corrective Action and Environmental Indicators*

EPA has set goals of meeting environmental indicators at high priority sites and moving sites through the RCRA corrective action process. New concerns have arisen on pathways for contaminant migration from ground water to surface water and from ground water to indoor air. In FY 2002, the Agency began providing technical support for evaluation of these pathways. In FY 2004, EPA will produce a report on methodologies for sub-slab vapor sampling to identify vapor intrusion into residences. In addition, a technology transfer product will be completed in FY 2004 following presentation of three workshops on vapor intrusion in FYs 2002 and 2003.

General technical support activities in risk management and risk assessment associated with RCRA Corrective Action will also continue in the form of support centers. These centers provide site-specific technical support, responses to scientific questions and technology transfer documents to program offices and other stakeholders. Additionally, there is collaboration with

support centers under the Superfund program, thereby sharing technical information across program applications.

## **FY 2004 Change from FY 2003 Request**

### EPM

- (-\$3,400,000) Redirected to Goal 4, Objective 5 to support the energy recovery, recycling, waste minimization and retail themes and to Goal 5, Objective 1 to support the one clean up and revitalization themes. Redirection reflects completion of program guidance documents, nearing completion of permitting goals and cost savings from docket consolidation.
- (-\$468,900 –5.3 FTE) Resources, dollars and FTE, associated with rent are allocated in proportion to Agency-wide FTE located in each goal, objective. Resources, dollars and FTE, associated with utilities, security and human resource operations are allocated in proportion to Headquarters FTE located in each goal, objective. Changes reflect shifts in FTE between goals and objectives. Resources, dollars and FTE, associated with contracts and grants are allocated in proportion to Headquarters' contracts and grants resources located in each goal, objective. Changes in these activities reflect shifts in resources between goals and objectives. *(Total changes -> rent: +\$1,417,000, utilities: +\$2,374,800, Security: +\$3,425,000 and 75 FTE, Human Resources: +\$870,400 and +5.4 FTE, Contracts: +\$642,400 and -18.5 FTE, Grants: +\$3,015,500 and +19.7 FTE)*

### S&T

#### Research

- (+\$1,000,000) This increase represents a shift from ecosystems protection research (Objective 8.1) and from research to enhance environmental decision making (Objective 8.3) to Goal 5, Objective 2 to fund research in groundwater/surface water interactions. Research will include: 1) determining how groundwater (gw) quality impacts surface water (sw) quality with respect to designated water uses and wetlands; 2) developing and evaluating indicators of ecosystem health and water quality; and 3) developing and evaluating models that integrate hydrology, biology, and biogeochemistry. This research will increase the Agency's knowledge of the interactions that occur at this interface, and thereby enhance the quality and timeliness of site remediations.
- (+\$118,600, 1.2 FTE) This increase is to support the Hazardous Substance Technical Liaison (HSTL) program. This program provides and facilitates technical support to the Regions in waste-related areas.
- (-\$151,300, -1.5 FTE) These workyears are being redirected to support the Agency's Homeland Security Strategic plan in the area of building decontamination research (Goal 5.1). As a result, research to investigate the fundamental processes that lead to formation of products of incomplete combustion (PICs) in waste incinerators will be delayed



- There are additional increases in payroll, cost of living, and enrichment for new and existing FTE.

**GOAL: BETTER WASTE MANAGEMENT, RESTORATION OF CONTAMINATED WASTE SITES, AND EMERGENCY RESPONSE**

**OBJECTIVE: REGULATE FACILITIES TO PREVENT RELEASES**

**Annual Performance Goals and Measures**

**Oil Spill Response**

- In 2004 Respond to or monitor 300 oil spills.
- In 2003 Respond to or monitor 300 significant oil spills in the inland zone.
- In 2002 EPA responded to or monitored 203 oil spills.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Oil spills responded to or monitored by EPA.	203	300	300	spills

Baseline: EPA typically responds to or monitors 300 oil spill cleanups per year.

**Ensure WIPP Safety**

- In 2004 Certify that 18,000 55-gallon drums of radioactive waste (containing approximately 54,000 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.
- In 2003 Certify that 12,000 55 gallon drums of radioactive waste (containing approximately 36,000 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.
- In 2002 EPA certified that 22,800 55 gallon drums of radioactive waste (containing approximately 68,400 curies) shipped by DOE to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of 55-Gallon Drums of Radioactive Waste Disposed of According to EPA Standards	22,800	12,000	18,000	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 2002, approximately 35,000 (cumulative) 55 gallon drums will be safely disposed. In FY 2003, EPA expects that DOE will ship an additional 12,000 55 gallon drums of waste. Through FY 2004, EPA expects that DOE will have shipped safely and according to EPA standards, approximately 7.5% of the planned waste volume, based on disposal of 860,000 drums over the next 40 years. 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.

**Tribal Prevention Assistance**

- In 2004 Assist Tribes in evaluation of waste management facility program needs and in the closing or upgrading of open dumps.
- In 2003 Increase the percentage of Tribes evaluated for hazardous waste management by 4 percentage points, and assist in evaluating and closing open dumps on Tribal lands.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Percentage of tribes evaluated for hazardous waste management needs.		4	4	percent
Number of open dumps on Tribal lands that comply with regulatory landfill standards, or have closed with protections against future dumping put in place.		no target		sites

Baseline: By the end of FY 2002, RCRA Subtitle C management needs had been evaluated for 177 Tribes. Baseline data for the Tribal Open Dump Cleanup Project is currently under development.

### Build National Radiation Monitoring System

In 2004 EPA will purchase 60 state of the art radiation monitoring units thereby increasing EPA radiation monitoring capacity and population coverage from 37% of the contiguous U.S. population in FY 2002 to 50% in FY 2004.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Increase Population Covered by the National Radiation Monitoring System			13	Percent
Purchase and Deploy State-of-the Art Monitoring Units			60	Units Purchased
Purchase a Deployable Component to the National Radiation Monitoring System			9/30/2004	

Baseline: The current fixed monitoring system, part of the Environmental Radiation Ambient Monitoring System, was developed in the 1960s for the purpose of monitoring radioactive fallout from nuclear weapons testing. The system currently consists of 52 old, low-tech air particulate samplers which provide coverage in cities which represent approximately 37% of the population. By 2005, EPA will upgrade the old system by purchasing 120 state-of-the-art units which will be strategically located to cover approximately 70% of the population. The current system's air samplers will be retired from service due to age, although some may be retained for emergency use.

### Waste and Petroleum Management Controls

In 2004 Increase the number of waste and petroleum facilities with acceptable or approved controls in place to prevent releases to the environment.

In 2003 Increase the number of waste and petroleum facilities with acceptable or approved controls in place to prevent releases to the environment.

In 2002 1.8% of RCRA hazardous waste management facilities received permits or other approved controls, and 580 oil facilities were in compliance with spill prevention, control and countermeasure provisions of the oil pollution regulations.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of oil facilities in compliance with spill prevention, control and countermeasure provisions of oil pollution prevention regulations.	580	600	600	facilities
Percent of RCRA hazardous waste management facilities with permits or other approved controls.	1.8%	1.4%	1.4%	percentage pts.
Number of confirmed UST releases nationally.			no target	UST releases
Increase in UST facilities in significant operational compliance with leak detection requirements.		3%	4%	percentage pts.
Increase in UST facilities in significant operational compliance with spill, overfill and corrosion protection regulations.		3%	4%	percentage pts.

Baseline: By the end of FY 2002, 2,925 oil facilities were in compliance with oil pollution prevention regulations, and 79% of approximately 2,750 RCRA facilities had permits or other approved controls in place. By the end of FY 2002, the UST Baseline is 74% of facilities in significant operational compliance with leak detection and 81% of facilities in significant operational compliance with spill, overflow, and corrosion protection. There are an average of 12,000 confirmed releases annually from underground storage tanks.

### Chemical Facility Risk Reduction

In 2004 Increase facility risk reduction and state response capabilities.

In 2003 Increase facility risk reduction capabilities.

In 2002 Data not Available.

Performance Measures:	FY 2002 Actuals	FY 2003 Pres. Bud.	FY 2004 Request	
Number of risk management plan audits completed.	Not Available	300	400	audits
Number of states implementing chemical accident prevention programs.	1	8	No Target	states

Baseline: By the end of FY 2001, 438 risk management plan audits were completed, and 15 states had implemented accident prevention programs.

## **Verification and Validation of Performance Measures**

### **FY 2004 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.

**Data Source:** Data are entered by the States. Supporting documentation and reference materials are maintained in regional and state files. EPA regions and authorized states enter data on a rolling basis.

**Methods, Assumptions and Suitability:** 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.

**QA/QC Procedures:** States and Regions generate the data and manage data quality related to timeliness and accuracy. Within RCRAInfo the application software enforces structural controls that 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 generation and interpretation of data. Training on use of RCRAInfo is provided on a regular basis, usually annually, depending on the nature of system changes and user needs.

Note: Access to RCRAInfo is open only to EPA Headquarters, Regional, and authorized State personnel. It is not available to the general public because the system contains enforcement sensitive data. The general public is referred to EPA's Envirofacts Data Warehouse to obtain filtered information on RCRA-regulated hazardous waste sites: [oaspub.epa.gov/enviro/ef\\_home2.waste](http://oaspub.epa.gov/enviro/ef_home2.waste).

**Data Quality Review:** GAO's 1995 Report on EPA's Hazardous Waste Information System <http://fregate.access.gpo.gov/cgibin/> (This historical document is available on the Government Printing Office Website) reviewed whether national RCRA information systems support EPA and states in managing their hazardous waste program. Recommendations coincide with ongoing internal efforts (WIN/Informed) to improve the definitions of data collected, ensure that data collected provide critical information and minimize the burden on states.

**Data Limitations:** No data limitations have been identified. Basic site identification data may become out-of-date because RCRA does not mandate annual or other periodic re-notification by the regulated entity when site name, ownership and contact information changes.

**Error Estimate:** N/A. Currently OSW does not collect data on estimated error rates.

**New/Improved Data or Systems:** EPA has successfully implemented new tools for managing 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. RCRAInfo allows for tracking of information on the regulated universe of RCRA hazardous waste handlers, such as facility status, regulated activities, and compliance history. The system also captures detailed data on the generation of hazardous waste by 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 using commercial off-the-shelf software to develop reports from database tables.

**References:** <http://www.epa.gov/osw/index.htm>; [oaspub.epa.gov/enviro/ef\\_home2.waste](http://oaspub.epa.gov/enviro/ef_home2.waste)

**FY 2004 Performance Measures:**

- **Number of States implementing chemical accident programs**
- **Number of risk management plan audits completed**

**Performance Database:** There is no database for these measures.

**Data Source:** EPA's Regional Offices and the States provide the data.

**Methods, Assumptions and Suitability:** Data will be collected by surveying EPA's Regional Offices to determine how many States are implementing prevention programs, and of those not, how many audits of the states' facilities' risk management plans (RMPs) have been completed.

**QA/QC Procedures:** Data are collected from states by EPA's Regional Offices, with review at the regional and headquarters' level.

**Data Quality Review:** Data quality is evaluated by both regional and headquarters personnel.

**Data Limitations:** Data quality is dependent on completeness and accuracy of the data provided by state programs and the information in risk management plans.

**Error Estimate:** N/A

**New/Improved Data or Systems:** N/A

**References:** N/A

**FY 2004 Performance Measures:**

- **Percentage of UST facilities in significant operational compliance with leak detection requirements**

- **Percentage of UST facilities in significant operational compliance with spill, overfill and corrosion protection regulations**
- **Number of confirmed UST releases nationally (new measure)**

**Performance Database:** The Office of Underground Storage Tanks (OUST) does not maintain a national database. There is a new performance measure (number of confirmed UST releases nationally). FY 2003 will be a baseline year for this measure, with implementation methodologies introduced in FY 2004.

**Data Source:** Designated State agencies submit semiannual progress reports to the EPA regional offices. The new measure is already included in the existing semiannual progress reporting system.

**Methods, Assumptions and Suitability:** N/A

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

**Data Quality Review:** None.

**Data Limitations:** Data quality is dependent on the accuracy and completeness of state records.

**Error Estimate:** N/A

**New/Improved Data or Systems:** None.

**References:** FY 2002 End-of-Year Activity Report, December 22, 2002 (updated semi-annually).

**FY 2004 Performance Measures:**

- **Number of oil facilities in compliance with spill prevention, control and countermeasure provisions of oil pollution prevention**
- **Oil spills responded to or monitored by EPA**

**Performance Database:** The Comprehensive Environmental Response, Compensation, and Liability System (CERCLIS) is the database used by the Agency to track, store, and report Superfund site information.

**Data Source:** Automated EPA system; headquarters and regional offices enter data into CERCLIS on a rolling basis.

**Methods, Assumptions and Suitability:** Each performance measure is a specific variable within CERCLIS.

**QA/QC Procedures:** To ensure data accuracy and control, the following administrative controls are in place: 1) Superfund/Oil Implementation Manual (SPIM), the program management manual that details what data must be reported; 2) Report Specifications, which are published for each report detailing how reported data are calculated; 3) Coding Guide, which contains technical instructions to such data users as regional Information Management Coordinators (IMCs), program personnel, report owners, and data input personnel; 4) Quality Assurance (QA) Unit Testing, an extensive QA check against report specifications; 5) Regional CERCLIS Data Entry Internal Control Plan, which 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 (6) a historical lockout feature that has been added to CERCLIS so that changes in past fiscal year data can be changed only by approved and designated personnel and are logged to a change-log report.

**Data Quality Reviews:** 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), dated December 30, 1997, was prepared to verify the accuracy of the information that the Agency was providing to Congress and the public. 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.” Further information on this report are available at <http://www.epa.gov/oigearth/erom.htm>. The GAO’s report, *Superfund Information on the Status of Sites* (GAO/RECD-98-241), dated August 28, 1998, was prepared to verify the accuracy of the information in CERCLIS on sites’ cleanup progress. The report estimates that the cleanup status of National Priority List sites reported by CERCLIS as of September 30, 1997, is accurate for 95% of the sites. Additional information on the *Status of Sites* may be obtained by visiting <http://www.gao.gov>. A third OIG audit, *Information Technology - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality* (Report No. 2002-P-00016), dated September 30, 2002, evaluated the accuracy, completeness, timeliness, and consistency of the data entered into CERCLIS. The weaknesses identified were caused by the lack of an effective quality assurance process and adequate internal controls over CERCLIS data quality. The report provided 11 recommendations to improve controls over CERCLIS data quality. OSWER concurs with the recommendations contained in the audit. Due to the extended period of time since the inception of this audit, many of the identified problems have been corrected or actions that would address these recommendations are underway. Additional information about this report is available at <http://www.epa.gov/oigearth/erom.htm>.

The IG reviews annually the end-of-year Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) data, in an informal process, to verify the data supporting the performance measures. Typically, there are no published results.

The Quality Management Plan (QMP) for the Office of Solid Waste and Emergency Response (OSWER) is currently under review by the Office of Environmental Information.

**Data Limitations:** Weakness were identified in the OIG audit, *Information Technology - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality* (Report No. 2002-P-00016), dated September 30, 2002. The weaknesses identified were caused by the lack of an effective quality assurance process and adequate internal controls over CERCLIS data quality. The report provided 11 recommendations with which OSWER concurs. Many of the identified problems have been corrected or actions that would address these recommendations are underway, e.g., 1) FY 02/03 SPIM Chapter 2 update; 2) draft guidance from OCA subgroup and 3) Pre-CERCLIS Screening: A Data Entry Guide. The development and implementation of a quality assurance process for CERCLIS data is planned to begin February 2003 which will clearly delineate quality assurance responsibilities and periodically select random samples of CERCLIS data elements and verify the data to source documents in site files.

**Error Estimate:** The GAO's report, *"Superfund Information on the Status of Sites"* (GAO/RECD-98-241), dated August 28, 1998, estimates that the cleanup status of National Priority List sites reported by CERCLIS is accurate for 95% of the sites.

**New/Improved Data or Systems:** In FY 2004, 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 into CERCLIS. Efforts to share information among the Federal, state, and Tribal programs to further enhance the Agency's efforts to efficiently identify, evaluate and remediate Superfund hazardous waste sites will continue. In 2005 the Agency will also establish data quality objectives for program planning purposes and to ascertain the organization's information needs for the next 5 years. Adjustments will be made to EPA's current architecture and business processes to better meet those needs. A CERCLIS modernization effort is currently underway to enhance CERCLIS with a focus on data collection and data analysis and how to best satisfy the current needs of the Superfund program. The Superfund eFacts system is a vital part of the CERCLIS modernization efforts. The Superfund eFacts system is an e-Government solution design to give EPA management and staff quick and easy access to important milestones relating to various aspects of the Superfund program.

**References:** References include OIG audit reports, *Superfund Construction Completion Reporting*, (No. E1SGF7\_05\_0102\_ 8100030) and *Information Technology - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality*, (No. 2002-P-00016), <http://www.epa.gov/oigearth/erom.htm>; and the GAO report, *Superfund Information on the Status of Sites* (GAO/RECD-98-241), <http://www.gao.gov>. Other references include the Superfund/Oil Implementation Manuals for the fiscal years 1987 to the current manual and the Annual Performance Report to Congress.

**FY 2004 Performance Measure: Number of Drums of Radioactive Waste Disposed of according to EPA Standards.**

**Performance Data:** The Department of Energy (DOE) Waste Isolation Pilot Plant (WIPP) database contains the number of drums shipped by DOE waste generator facilities and placed in the DOE WIPP. The WIPP is a DOE facility located in southeastern New Mexico, 26 miles from Carlsbad. The WIPP Land Withdrawal Act was passed by Congress in October 1992 and amended in September 1996. The act transferred the land occupied by the WIPP to DOE and gave EPA, among other things, regulatory responsibility for determining whether the facility complies with radioactive waste disposal standards.

**Data Source:** Department of Energy

**QA/QC Procedures:** The performance data used by EPA are collected and maintained by DOE. Under EPA's WIPP regulations (available on the Internet:

<http://www.epa.gov/radiation/wipp/background.htm>, all DOE WIPP-related data must be collected and maintained under a comprehensive quality assurance program meeting consensus standards developed by the American Society of Mechanical Engineers (ASME) (available on the Internet: <http://www.asme.org/codes/>). EPA conducts regular inspections to ensure that these quality assurance systems are in place and functioning properly; no additional QA/QC of the DOE data is conducted by EPA.

**Data Limitations:** The DOE WIPP database contains the number of drums shipped by DOE waste generator facilities and placed in the DOE WIPP. Currently, there are five DOE waste generator facilities that are approved to generate and ship waste: Los Alamos National Laboratory, Rocky Flats Environmental Technology Site, Hanford Site, Idaho National Engineering and Environmental Laboratory, Savannah River Site.

Before DOE waste generator facilities can ship waste to the WIPP, EPA must approve the waste characterization controls and quality assurance procedures for waste identification at these sites. EPA conducts frequent independent inspections and audits at these sites to verify continued compliance with radioactive waste disposal standards and to determine if DOE is properly tracking the waste and adhering to specific waste component limits. Since 1998, EPA has completed over 30 inspections prior to shipment of waste to the WIPP facility.

Once EPA gives its approval, 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

**References:** The Department of Energy National TRU Waste Management Plan Quarterly Supplement <http://www.wipp.ws/library/caolib.htm#Controlled> contains information on the monthly volumes of waste that are received at the DOE WIPP.

### **Coordination with Other Agencies**

State UST programs are a 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 Local Emergency Planning Committees (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 (DOJ, OSHA, and DOT) and with states to ensure compatibility with new and 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.

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 oversees national, regional, and area spill emergency planning. In addition, the Agency plays a leadership role in crisis management, which requires participation on a number of inter-agency committees and workgroups.

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 ACPs. 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 the goals and performance they will achieve with the grant funds. For example, Regions may negotiate with the state agencies the number of facilities they will permit 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. Regional offices establish interagency workgroups in states where partnership with these Federal agencies have not been well established. Workgroup representatives from other Federal agencies coordinate tasks based on the field of expertise within each agency, which allows for efficient completion of the open dump initiative without overlapping efforts.

### Research

EPA developed a Memorandum of Understanding (MOU) with several other agencies (Department of Energy, Department of Defense, Nuclear Regulatory Commission, Department of the Interior - US Geological Survey, NOAA, and the Department of Agriculture) for multimedia modeling research and development. Contacts with the other agencies have been developed largely due to the 3MRA modeling program in EPA. The multi-agency coordination reduces inefficient duplication, and allows each agency or department partner to benefit from the best expertise available on multi-media research and development.

With respect to waste management issues research is being coordinated with the public and private sectors. Currently, EPA has the lead in providing regulatory guidance for solid waste disposal issues. The Agency has also worked extensively with bioreactor technology, in cooperation with states and private industry, and will continue to do so in FY 2004. In conjunction with the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) and the National Council of Governors, EPA state programs have been actively analyzing new operating configurations for landfills to help states and municipalities develop options for managing municipal solid waste.

The Interstate Technical Regulatory Cooperative (ITRC) has proved a good forum for coordinating Federal and state activities and for defining continuing research needs, with a team newly formed to evaluate vapor intrusion as a pathway for subsurface contaminants to migrate into people's homes.

### **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

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

Clean Water Act (CWA), Section 311.

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

Clean Air Act Section 112

## **Research**

Solid Waste Disposal Act (SWDA)

Resource Conservation and Recovery Act (RCRA)

Hazardous and Solid Waste Amendments (HSWA)

The Clean Air Act Amendments (CAA)