

**Environmental Protection Agency
2005 Annual Performance Plan and Congressional Justification**

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Environmental Protection Agency

FY 2005 Annual Performance Plan and Congressional Justification

Land Preservation and Restoration

STRATEGIC GOAL: Preserve and restore the land by using innovative waste management practices and cleaning up contaminated properties to reduce risks posed by releases of harmful substances.

Resource Summary (Dollars in thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Land Preservation and Restoration	\$1,706,796.3	\$1,779,473.5	\$1,798,171.0	\$18,697.5
Preserve Land	\$205,443.3	\$210,990.1	\$237,149.8	\$26,159.7
Restore Land	\$1,454,821.4	\$1,508,646.8	\$1,503,465.6	(\$5,181.3)
Enhance Science and Research	\$46,531.6	\$59,836.6	\$57,555.6	(\$2,280.9)
Total Workyears	4,675.2	4,744.8	4,708.5	-36.4

BACKGROUND AND CONTEXT

Left uncontrolled, hazardous and nonhazardous wastes on the land can migrate to the air, groundwater, and surface water, contaminating drinking water supplies, causing acute illnesses or chronic diseases, and threatening healthy ecosystems in urban, rural, and suburban areas. Hazardous substances can kill living organisms in lakes and rivers, destroy vegetation in contaminated areas, cause major reproductive complications in wildlife, and otherwise limit the ability of an ecosystem to survive.

MEANS AND STRATEGY

EPA will work to preserve and restore the land using the most effective waste management and cleanup methods available. EPA will use a hierarchy of approaches to protect the land: reducing waste at its source, recycling waste, and managing waste effectively by preventing spills and releases of toxic materials and cleaning up contaminated properties. The Agency is especially concerned about threats to our most sensitive populations, such as children, the elderly, and individuals with chronic diseases.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund)¹ and the Resource Conservation and Recovery Act (RCRA)² provide

¹ 42 U.S. Code 9601-9675

the legal authority for most of EPA's work toward this goal. The Agency and its partners use Superfund authority to clean up uncontrolled or abandoned hazardous waste sites; return the land to productive use; and maximize the participation of potentially responsible parties in cleanup efforts. Under RCRA, EPA works in partnership with states and Tribes to address risks associated with leaking underground storage tanks and with the generation and management of hazardous and non-hazardous wastes.

EPA also uses authorities provided under the Clean Air Act,³ Clean Water Act,⁴ and Oil Pollution Act of 1990⁵ to protect against spills and releases of hazardous materials. Controlling the many risks posed by accidental and intentional releases of harmful substances presents a significant challenge to protecting the land. EPA's approach integrates prevention, preparedness, and response activities to minimize these risks. Spill prevention activities keep harmful substances from being released to the environment. Improving its readiness to respond to emergencies, through training, development of clear authorities, and provision of proper equipment, will ensure that EPA is adequately prepared to minimize contamination and harm to the environment when spills do occur.

In FY 2005, EPA will maintain its focus on three themes established in FY 2004, and one additional theme on emergency preparedness, response and homeland security, in achieving its objectives:

- **Recycling, Waste Minimization and Energy Recovery:** EPA's strategy for reducing waste generation and increasing recycling is based on (1) establishing and expanding partnerships with businesses, industries, states, communities, and consumers; (2) stimulating infrastructure development, environmentally responsible behavior by product manufacturers, users, and disposers ("product stewardship"), and new technologies; and (3) helping businesses, government, institutions, and consumers by education, outreach, training, and technical assistance.
- **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 information technologies that describe waste site cleanup and revitalization information in ways that keep the public and stakeholders fully informed. Finally, the Agency will develop environmental outcome performance measures that report progress

² 42 U.S. Code 6901-6992k

³ 42 U.S. Code 7401-7671q

⁴ 33 U.S. Code 1251-1387

⁵ 33 U.S. Code 2701-2761

among all cleanup programs, such as the number of acres able to be reused after site cleanup. A crucial element to this effort is a national dialogue, currently underway, on the future of Superfund and other EPA waste cleanup programs.

- **Revitalization:** The Agency's broad promotion of the successes of the Brownfields and other waste programs focuses on restoring and revising contaminated lands. The Land Revitalization Initiative complements the Agency's traditional cleanup programs by focusing on solutions that improve the quality of life and economy of affected communities. Front end planning for the final, productive use of contaminated lands enables the cleanup programs, communities and interested stakeholders to more easily and quickly make cleanup decisions. This integration of land reuse planning with the traditional cleanup processes will lead to faster, more efficient cleanups.
- **Emergency Preparedness, Response, and Homeland Security:** EPA has a major role in reducing the risk to human health and the environment posed by accidental or intentional releases of harmful substances and oil. EPA will work to improve its ability to effectively respond to these incidents, working closely with other federal agencies within the National Response System.

Reducing and Recycling Waste

The Resource Conservation Challenge (RCC) represents a major national effort to find flexible yet protective ways to conserve our valuable natural resources by reducing waste, recycling, and recovering energy.⁶ Through the RCC, EPA challenges all Americans to make purchasing and disposal decisions that conserve natural resources, save energy, reduce costs, and preserve the environment for future generations.

Establishing and Expanding Partnerships: EPA will establish and expand its partnerships with industry, states, and other entities to reduce waste and to develop and deliver tools that can help businesses, manufacturers, and consumers. Nationally-recognized programs, such as WasteWise,⁷ which uses partnerships to encourage waste prevention and recycling, will serve as models for new alliances among federal, state, and local governments and businesses that capitalize on voluntary efforts to reduce waste and increase recycling.

EPA will also continue to help its Tribal partners improve practices for managing solid waste on Indian lands. EPA has direct implementation responsibility for the RCRA hazardous waste and Underground Storage Tank programs in Indian country. Recognizing the unique challenges encountered in Indian country, EPA will work with Tribes on a government-to-government basis that affirms the federal government's vital trust responsibility and the

⁶ U.S. Environmental Protection Agency, Office of Solid Waste. Resource Conservation Challenge Web Site: <http://www.epa.gov/epaoswer/osw/consERVE/index.htm>. Washington, D.C. Last updated August 21, 2003.

⁷ U.S. Environmental Protection Agency, Office of Solid Waste. WasteWise Program Web Site, About Waste Wise Page: <http://www.epa.gov/wastewise/wrr/cbuild.htm>. Washington, D.C. Last updated September 27, 2002.

importance of conserving natural resources for cultural uses. EPA will conduct joint projects to upgrade Tribal solid waste management infrastructure, developing plans, codes and ordinances, recycling programs, and other alternatives to open dumping. These efforts will help to prevent open dumping in Indian country in the future and allow clean up of existing dumps, reducing the risks that such dumps pose to human health and the environment.

Stimulating Infrastructure Development, Product Stewardship, and New Technologies: Another key strategy for reducing waste is fostering development of infrastructure that will make it easier for businesses and consumers to reduce the waste they generate; acquire and use recycled materials; and purchase products containing recovered materials. For example, EPA has established voluntary product stewardship partnerships with manufacturers, retailers, governmental, and nongovernmental organizations to reduce the impacts that electronics and carpets can have on the environment throughout their lifecycles. EPA continues to promote the development of new and better recycling technologies and explore ways to obtain energy or products from waste.

Providing Education, Outreach, Training, and Technical Assistance: EPA works with major retailers, electronics manufacturers, and the amusement and motion picture industries to revitalize, create, and display conservation, waste prevention, and recycling messages. These activities encourage smarter, more environmentally responsible behavior by consumers, young people, and underserved communities. The Agency and its partners design activities that encourage students and teachers to start innovative recycling programs and develop unique tools and projects to promote waste reduction, recycling, and neighborhood revitalization in Hispanic and African-American communities and on Indian lands.

Managing Hazardous Wastes and Petroleum Products Properly

Recognizing that some hazardous wastes cannot yet be completely eliminated or recycled, the RCRA program works to reduce the risks of exposure to hazardous wastes by maintaining a “cradle-to-grave” approach to waste management.

Preventing Hazardous Releases from RCRA Facilities: EPA’s strategy for addressing hazardous wastes that must be treated or stored is to achieve greater efficiencies at waste management facilities through more focused permitting processes and tighter standards where appropriate. EPA works with state, Tribal, and local government partners to ensure that hazardous waste management facilities have approved controls in place and continues to strive for safe waste management.

EPA will work with the authorized states—specifically those with a large number of facilities lacking approved controls in place—to resolve issues and transfer best practices from other states. EPA also plans to study the universe of unpermitted facilities and work with states to identify and resolve issues that may be preventing key categories of facilities from obtaining permits or putting other approved controls in place. To achieve greater efficiencies at facilities

that treat or store hazardous waste, the Agency will promote innovative technologies that streamline permitting processes and improve protection of human health and the environment.

Reducing Emissions from Hazardous Waste Combustion: EPA continues to develop and issue regulations on emission standards for hazardous waste combustion facilities. Implementation of these regulations is key to reducing the emission of dioxins, furans, particulate matter, and acid gases. Within 2 years from the date when EPA issues new limits, facilities will conduct emission tests to demonstrate reductions. Additional periodic tests will ensure continued compliance with the limits established for emissions.

Preventing Releases from Underground Storage Tank Systems: EPA recognizes that the size and diversity of the regulated community put state authorities in the best position to regulate Underground Storage Tanks (USTs) and to set priorities. RCRA Subtitle I allows state UST programs approved by EPA to operate in lieu of the federal program.⁸ Except in Indian country, even states that have not received formal state program approval from EPA are in most cases the primary implementing agencies and receive annual grants from EPA.

While the frequency and severity of releases from UST systems have been greatly reduced, EPA and its state partners have observed that releases are still occurring. EPA will continue to work with its state and Tribal partners to prevent and detect petroleum releases from USTs by ensuring that compliance with detection prevention requirements (spill, overfill, and corrosion protection) are a national priority. While the vast majority of the approximately 683,000 active USTs have the regulatory equipment, significant work remains to ensure that UST owners and operators maintain and operate their systems properly.⁹ In FY 2005, the Agency will continue its performance evaluation of new or upgraded UST systems to better and more quickly identify releases and their causes. The Agency will also continue to identify opportunities for improving UST system performance.

To protect our Nation's groundwater and drinking water from petroleum releases, EPA will continue to support state programs; strengthen partnerships among stakeholders; and provide technical and compliance assistance, and training to promote and enforce UST facilities' compliance. In addition, EPA will continue its work to obtain states' commitments to increase their inspection and enforcement presence if state-specific goals are not met. The Agency and states will use innovative compliance approaches, along with outreach and education tools, to bring more tanks into compliance.

The Agency will also provide guidance to foster the use of new technology to enhance compliance. For example, the presence of methyl-tertiary-butyl-ether (MTBE) in gasoline increases the importance of preventing and rapidly detecting releases, since MTBE cleanups can

⁸ 42 U.S. Code 9601-6992k

⁹ Memorandum from Cliff Rothenstein, Director, EPA Office of Underground Storage Tanks to Underground Storage Tank Division Directors in EPA Regions 1-10. June 19, 2003. F^ 2003 Semi Annual (Mid-Year) Activity Report

cost 100 percent more than cleanups involving other gasoline contaminants.¹⁰ The Agency will focus its efforts on reducing UST releases and increasing early detection of petroleum products, including MTBE, by further evaluating the performance of compliant UST systems.

Preparing for and Responding to Emergencies

EPA plays a major role in reducing the risks that accidental and intentional releases of harmful substances and oil pose to human health and the environment. Under the National Response System (NRS), EPA evaluates and responds to thousands of releases annually. The NRS is a multi-agency preparedness and response mechanism that includes the following key components: the National Response Center, the National Response Team (NRT) which is composed of 16 Federal agencies, 13 Regional Response Teams, and Federal On-Scene Coordinators (OSCs). These organizations work with state and local officials to develop and maintain contingency plans that will enable the Nation to respond effectively to hazardous substance and oil emergencies. When an incident occurs, these groups coordinate with the OSC in charge to ensure that all necessary resources, such as personnel and equipment, are available and that containment, cleanup, and disposal activities proceed quickly, efficiently, and effectively. EPA's primary role in the NRS is to serve as the Federal OSC for spills and releases in the inland zone. As a result of NRS efforts, the Nation has successfully contained many major oil spills and releases of hazardous substances, minimizing the adverse impacts on human health and the environment.

Preparing for Emergencies: Preparedness on a national level is essential to ensure that emergency responders are able to deal with multiple, large-scale emergencies, including those that may involve chemicals, oil, biological agents, or radiological incidents. Over the next several years, EPA will enhance its core emergency response program to respond quickly and effectively to chemical, oil, biological, and radiological releases. EPA also will improve coordination mechanisms to respond to simultaneous, large-scale national emergencies, including homeland security incidents. The Agency will focus its efforts on Regional Response Teams and coordination among Regions; health and safety issues, including provision of clothing that protects and identifies responders, training, and exercise; establishment of delegation and warrant authorities; and response readiness, including equipment, transportation, and outreach. The criteria for excellence in the core emergency response program will ensure a high level of overall readiness throughout the Agency and improve its ability to support multi-Regional responses.

In addition to enhancing its readiness capabilities, EPA will work to improve internal and external coordination and communication mechanisms. For example, as part of the National Incident Coordination Team, EPA will continue to improve its policies, plans, procedures, and decision-making processes for coordinating responses to national emergencies. Under the Continuity of Operations/Continuity of Government program, EPA will upgrade and test plans,

¹⁰ New England Interstate Water Pollution Control Commission. 2000. A Survey of Site Experiences with MTBE Contamination at LUST Sites. Web Site: <http://epa.gov/superfund/sites/npl/current>.

facilities, training, and equipment to ensure that essential government business can continue during a catastrophic emergency. NRT capabilities are being expanded to coordinate interagency activities during large-scale responses. EPA will coordinate its activities with the Department of Homeland Security, Federal Emergency Management Administration (FEMA), Federal Bureau of Investigation (FBI), other Federal agencies, and state and local governments. EPA will also continue to clarify its roles and responsibilities so that Agency security programs are consistent with the national homeland security strategy.

Responding to Hazardous Substance Releases and Oil Spills: Each year, EPA personnel assess, respond to, mitigate, and clean up thousands of releases, whether accidental, deliberate, or naturally occurring. These incidents range from small spills at chemical or oil facilities to national disasters, such as hurricanes and earthquakes, to terrorist events like the 2001 World Trade Center and anthrax attacks, to the 2003 Columbia shuttle tragedy.

EPA will work to improve its capability to respond effectively to incidents that may involve harmful chemical, oil, biological, and radiological substances. The Agency will explore improvements in field and personal protection equipment and response training and exercises; review response data provided in the “after-action” reports prepared by EPA emergency responders following a release; and examine “lessons learned” reports to identify which activities work and which need to be improved. Application of this information and other data will advance the Agency’s state-of-the-art emergency response operations.

Preventing Oil Spills: An important component of EPA’s land strategy is to prevent oil spills from reaching the Nation’s waters. Under the Oil Pollution Act,¹¹ the Agency requires certain facilities (defined in 40 CFR 112.2) to develop and implement spill prevention, control, and countermeasure (SPCC) plans. SPCC plans ensure that facilities put in place containment and other countermeasures to prevent oil spills from reaching navigable waters. Facilities that are unable to provide secondary containment, such as berms around an oil storage tank, must provide a spill contingency plan that details cleanup measures to be taken if a spill occurs. Compliance with these requirements reduces the number of oil spills that reach navigable waters and prevents detrimental effects on human health and the environment should a spill occur.

Controlling Risks to Human Health and the Environment at Contaminated Sites

Leaching contaminants can foul drinking water in underground aquifers used for wells or surface waters used by public water intakes. Contaminated soil can result in human ingestion or dermal absorption of harmful substances. Contamination can also affect subsistence resources, including resources subject to special protections through treaties between Federal and Tribal governments. Furthermore, because of the risks it poses, contaminated land may not be available for use.

EPA and its partners work to clean up contaminated land to levels sufficient to control risks to human health and the environment and to return the land to productive use. The

¹¹ 33 U.S. Code,6901-6992k

Agency's cleanup activities, some new and some well-established, include removing contaminated soil, capping or containing contamination in place, pumping and treating groundwater, and bioremediation.

EPA uses a variety of tools to accomplish cleanups: permits, enforcement actions, consent agreements, Federal Facility Agreements, and many other mechanisms. As part of EPA's One Cleanup Program Initiative, all levels of government will work together to ensure that appropriate cleanup tools are used; that resources, activities, and results are coordinated with partners and stakeholders and communicated to the public effectively; and that cleanups are protective and contribute to community revitalization. This approach reflects EPA's efforts to coordinate across all of its cleanup programs, while maintaining the flexibility needed to accommodate differences in program authorities and approaches.

EPA fulfills its cleanup and waste management responsibilities on Tribal lands by acknowledging Tribal sovereignty and recognizing Tribal governments as being the most appropriate authorities for setting standards, making policy decisions, and managing programs consistent with Agency standards and regulations.

Through strong policy, leadership, program administration, and a dedicated workforce, EPA's cleanup programs will merge sound science, cutting-edge technology, quality environmental information, and stakeholder involvement to protect the Nation from the harmful effects of contaminated property. To accomplish its cleanup goals, the Agency continues to forge partnerships and develop outreach and education strategies.

EPA and its partners follow four key steps to accomplish cleanups and control risks to human health and the environment: assessment, stabilization, selection of appropriate remedies, and implementation of remedies. The Agency will continue to work with Federal, state, Tribal, and local government partners at each step of the process to identify facilities and sites requiring attention and to monitor changes in priorities. For example, EPA is collecting Tribal program baseline data for the Superfund program and will modify the Superfund data system to more accurately track sites of concern to Tribes, along with those situated on Indian lands. As systems and approaches change, cleanup programs will revise guidance appropriately.

Usable land is a valuable resource. However, where contamination presents a real or perceived threat to human health and the environment, options for future land use at that site may be limited. EPA's cleanup programs have set a national goal of returning formerly contaminated sites to long-term, sustainable, and productive use. This goal creates greater impetus for selecting and implementing remedies that, in addition to providing clear environmental benefits, will support future land use providing greater economic and social benefits.

Maximizing Potentially Responsible Party Participation at Superfund Sites:

Enforcement authorities play a critical role in all Agency cleanup programs. However, they have an additional and unique role under the Superfund program: they are used to leverage

private-party resources to conduct a majority of the cleanup actions and to reimburse the federal government for cleanups financed by the Trust Fund. EPA will continue to pursue the following two strategies for limiting the use of trust funds.

Applying Superfund “Enforcement First”: Historically, EPA has achieved at least \$6 in private-party cleanup commitments for every \$1 spent on enforcement. The Agency will continue to use its enforcement authorities to achieve this end. The Superfund program’s “Enforcement First” strategy will allow EPA to focus limited Trust Fund resources on sites where viable, potentially responsible parties either do not exist or lack the funds or capabilities to conduct the cleanup. By taking enforcement actions at sites where viable, liable parties do exist, EPA will continue to leverage private-party dollars so that Trust Fund money is used only when absolutely necessary to clean up hazardous waste sites.

Recovering Costs: Cost recovery is another way to leverage private-party resources through enforcement. Under Superfund, EPA has the authority to compel private parties to pay back Trust Fund money spent to conduct cleanup activities. EPA will continue its efforts to address 100 percent of the Statute of Limitations cases for Superfund sites with unaddressed total past costs equal to or greater than \$200,000 and to report the value of costs recovered.

Research

The FY 2005 land research program supports the Agency’s objective of reducing or controlling potential risks to human health and the environment at contaminated waste sites by accelerating scientifically-defensible and cost-effective decisions for cleanup at complex sites, mining sites, marine spills, and Brownfields in accordance with the Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA).

The Agency will conduct research to: 1) improve the range and scientific foundation for contaminated sediment remedy selection options through improved site characterization, and increased understanding of different remedial options; 2) determine the performance and cost benefit of alternative groundwater remediation technologies and provide tools for characterizing and assessing groundwater contamination to program offices for use in state and local remedial decisions; 3) provide tools and methods that will allow the Agency to accurately and efficiently assess, remediate, and manage soil and land contamination; and 4) provide tools, methods, and models, and technical support to characterize the extent of multimedia site contamination.

Multimedia decision-making, waste management, and combustion constitute the three major areas of research under the Resource Conservation and Recovery Act (RCRA) in FY 2005, as the Agency works toward preventing releases through proper facility management. Multimedia research will focus on resource conservation (e.g., electronic waste recycling and waste-derived products), corrective action, and multimedia modeling. Waste management research will develop 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 in-depth 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 (2nd Edition) codifies procedures and guidance for conducting peer review.

STRATEGIC OBJECTIVES AND FY 2005 ANNUAL PERFORMANCE GOALS

Preserve Land. By 2008, reduce adverse effects to land by reducing waste generation, increasing recycling, and ensuring proper management of waste and petroleum products at facilities in ways that prevent releases.

Restore Land. By 2008, control the risks to human health and the environment by mitigating the impact of accidental or intentional releases and by cleaning up and restoring contaminated sites or properties to appropriate levels.

Enhance Science and Research. Through 2008, provide and apply sound science for protecting and restoring land by conducting leading-edge research and developing a better understanding and characterization of environmental outcomes under Goal 3.

HIGHLIGHTS

In FY 2005, EPA and its partners will preserve and restore the land by reducing, recycling, and managing wastes, preventing and responding to releases of harmful substances, and cleaning up contaminated land. The following accomplishments are examples of what has been done by the Agency to achieve these purposes:

- completed 303,120 cleanups of confirmed releases from Federally-regulated LUSTs since 1987;
- conducted over 7,900 removal response actions from 1982 through January 6, 2004;
- completed clean up construction at 890 Superfund National Priorities List Sites through January 6, 2004;

- assessed over 45,300 potential Superfund sites through January 6, 2004;
- removed more than 33,400 sites from the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) waste site list;
- responded to or monitored 300 oil spills in a typical year;
- 699 construction projects are ongoing at over 430 sites;
- expanded the Waste Wise Partnership to more than 1,300 partners who recycled over 9 million tons of waste, and prevented over 400,000 tons of waste;
- enrolled 50 Coal Combustion Products Partners, who are investigating ways to increase the use of coal combustion products (CCPs) in construction and to promote other beneficial uses of CCPs;
- determined that an investment of \$1 million in Jobs Through Recycling grants helped businesses create more than 1,700 jobs and \$290 million in capital investment;
- provided over \$6.0 million to thirty-one Tribes to clean up open dumps and \$3.1 million to 47 Tribes to develop hazardous waste management programs through the Tribal Solid Waste Interagency Workgroup;
- developed e-permitting tools to expedite and simplify the permitting process and provide better public access to permitting information;
- financial assurance regulations reduced the number of sites that must be cleaned up under either state or Federal authorities (such as Superfund removals) by requiring facilities to have financial assurance for third party liability, closure, and completion of corrective action;
- 83 percent of hazardous waste facilities have approved controls (permits) in place, exceeding the 2005 goal of 80 percent;
- the “worst facilities first” strategy resulted in over 1,200 facilities achieving the Current Human Exposures Under Control environmental indicator goal and over 1,000 facilities achieving the Migration of Contaminated Groundwater Under Control environmental indicator goal;
- secured greater than \$20 billion in PRP commitments, through response and cost recovery settlements, over the life of the Superfund program; and

- resolved potential liability of 24,700 small volume waste contributing parties through more than 475 de minimis settlements.

In FY 2005, contaminated sites research will: 1) reduce uncertainties associated with soil/groundwater sampling and analysis; 2) reduce the time and cost associated with site characterization and site remediation activities; and 3) develop and demonstrate more effective and less costly remediation technologies involving complex sites and hard-to-treat wastes. 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. The Superfund Innovative Technology Evaluation (SITE) program fosters the development and use of lower cost and more effective characterization and monitoring technologies, as well as risk management remediation technologies for sediments, soils, and groundwater. In FY 2005, EPA will complete at least four SITE demonstrations, with emphasis on non-aqueous phase liquids (NAPLs) and sediments.

Waste management research in FY 2005 will work to advance the multimedia modeling and uncertainty/sensitivity analyses methodologies that support core RCRA program needs as well as emerging RCRA resource conservation needs. Waste management research will also be conducted to improve the management of both solid and hazardous wastes.

EXTERNAL FACTORS

EPA's ability to respond as the Federal On-Scene Coordinator for releases of harmful substances in the inland zone will be affected by several external factors. The National Response System ensures that EPA will respond when necessary, but relies heavily on the ability of responsible parties and state, local, and Tribal agencies to respond to most emergencies. The need for EPA to respond is a function of the quantity and severity of spills that occur, as well as the capacity of state, local, and Tribal agencies to address spills.

EPA's ability to respond to homeland security incidents may be affected by circumstances surrounding each event. For instance, if travel or communication is severely impeded, EPA's response may be delayed and its efficiency compromised. Also, in the case of a single large-scale incident, removal program resources will most likely be concentrated on that response, thus reducing EPA's ability to address other emergency releases. In severe cases, EPA's current emergency response workforce and resources may not be sufficient to address a large number of simultaneous large-scale incidents.

A number of external factors could also affect the Agency's ability to achieve its objectives for cleanup and prevention. These factors include Agency reliance on private-party response and state and Tribal partnerships, development of new environmental technologies, work by other Federal agencies, and statutory barriers. Achieving the release prevention objectives and attaining FY 2005 targets will depend heavily on the participation of states that have been authorized or approved to be the primary implementors of these programs.

Attaining EPA's waste reduction and recycling objectives will depend on the participation of Federal agencies, states, Tribes, local governments, industries, and the general public in partnerships aimed at reducing waste generation and increasing recycling rates. EPA provides national leadership in the areas of waste reduction and recycling to facilitate public and private partnerships that can provide the impetus for government, businesses, and citizens to join in the campaign to significantly reduce the amount of waste generated and ultimately sent for disposal. Further, both domestic and foreign economic stresses can adversely affect markets for recovered materials.

State programs are primarily responsible for implementing the RCRA Hazardous Waste and UST programs. EPA's ability to achieve its goals for these programs depends on the strength of state programs, including the level of funding contributed by states to these programs.

The Agency's ability to achieve its goals for Superfund construction completion is partially dependent upon the performance of cleanup activities by the Department of Defense (DOD) and the Department of Energy (DOE). In addition to construction completion, the Agency must rely on the efforts of DOD and DOE to establish and maintain Restoration Advisory Boards (RABs) and Site Specific Advisory Boards (SSABs). RABs and SSABs provide a forum for stakeholders to offer advice and recommendations on the restoration of Federal Facilities. Program success also partly depends on private party response and State partnerships, development of new environmental technology, work by other federal agencies, and statutory barriers. Further, EPA also coordinates its activities with other entities, such as PRP negotiations and agreements with states and Tribes.

Environmental Protection Agency

FY 2005 Annual Performance Plan and Congressional Justification

Land Preservation and Restoration

OBJECTIVE: Preserve Land

By 2008, reduce adverse effects to land by reducing waste generation, increasing recycling, and ensuring proper management of waste and petroleum products at facilities in ways that prevent releases.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Preserve Land	\$205,443.3	\$210,990.1	\$237,149.8	\$26,159.7
Environmental Program & Management	\$115,732.5	\$121,103.9	\$121,177.4	\$73.5
Science & Technology	\$950.0	\$0.0	\$0.0	\$0.0
Building and Facilities	\$1,398.3	\$1,478.0	\$1,571.1	\$93.1
State and Tribal Assistance Grants	\$85,944.2	\$86,436.9	\$112,236.9	\$25,800.0
Leaking Underground Storage Tanks	\$466.5	\$809.4	\$807.8	(\$1.6)
Inspector General	\$951.6	\$1,161.9	\$1,356.6	\$194.7
Total Workyears	717.7	740.9	725.4	-15.5

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Categorical Grant: Tribal General Assistance Program	\$364.9	\$0.0	\$0.0	\$0.0
Congressionally Mandated Projects	\$2,252.2	\$0.0	\$0.0	\$0.0
Categorical Grant: Hazardous Waste Financial Assistance	\$73,923.5	\$74,486.9	\$74,286.9	(\$200.0)
Categorical Grant: Underground Storage Tanks	\$11,655.8	\$11,950.0	\$37,950.0	\$26,000.0
Compliance Assistance and Centers	\$401.9	\$586.5	\$585.3	(\$1.2)
LUST / UST	\$6,765.8	\$7,144.2	\$7,094.5	(\$49.7)
RCRA: Waste Management	\$59,706.6	\$67,381.6	\$67,422.3	\$40.7
RCRA: Waste Minimization & Recycling	\$12,107.4	\$8,637.4	\$10,107.9	\$1,470.5
Administrative Projects	\$38,265.2	\$40,803.5	\$39,702.9	(\$1,100.6)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Categorical Grant: Tribal General Assistance Program	\$364.9	\$0.0	\$0.0	\$0.0
TOTAL	\$205,443.3	\$210,990.1	\$237,149.8	\$26,159.7

FY 2005 REQUEST

Results to be Achieved under this Objective

Preventing pollution before it is generated and poses harm is often less costly than cleanup and remediation. Source reduction and recycling programs can often increase resource and energy efficiencies and thereby reduce pressures on the environment. To meet its objective for reducing materials use through product and process redesign, and increasing materials and energy recovery from wastes otherwise requiring disposal, EPA intends to achieve the following results in FY 2005:

- Maintain the national average municipal solid waste generation rate at no more than 4.5 pounds per person per day.
- Increase recycling of the total annual municipal solid waste produced from 34 to 35 percent.

To meet its objective for reducing releases to the environment by managing hazardous wastes and petroleum products properly, EPA intends to achieve the following results in FY 2005:

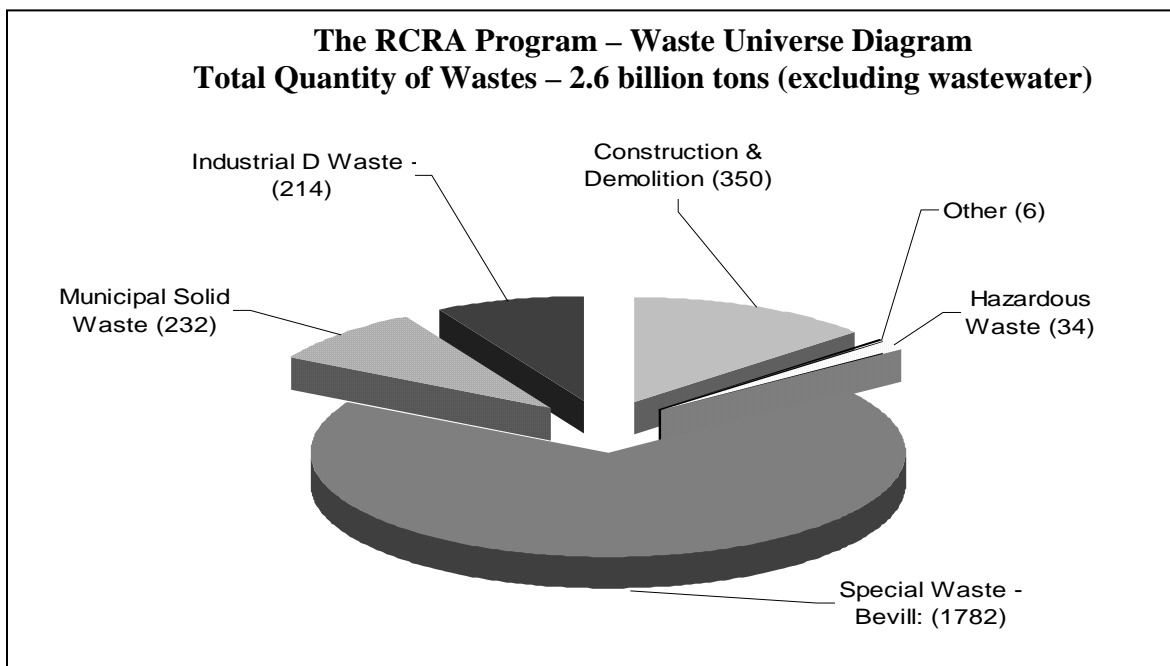
- Prevent releases from RCRA hazardous waste management facilities by increasing the number of facilities with permits or other approved controls by 2.8 percent over the FY 2004 level. At the end of FY 2002, 83 percent of the facilities¹² had permits or other approved controls.
- Increase the percentage of UST facilities that are in significant operational compliance with both release detection and release prevention (spill, overfill, and corrosion protection) requirements by 1 percent from the baseline established in FY 2004, out of a total estimated universe of approximately 258,000 facilities.
- Limit the number of confirmed releases at UST facilities to 10,000 or fewer. (Between FY 1999 and FY 2003, confirmed releases averaged 13,600.)

¹² Approximately 2,750 hazardous waste management facilities are currently regulated under RCRSA. EPA plans to reassess this universe in 2006. Facilities that started activities subject to hazardous waste permitting after October 1, 1997 will be included in the count; facilities that should not have counted will be removed.

The Agency is also committing, in the 2003 Strategic Plan, to two strategic targets for which there are not yet annual performance measures for FY 2005. These 2008 targets are to update controls for preventing releases at 150 facilities that are due for permit renewal by the end of 2006, and to reduce hazardous waste combustion facility emissions of dioxins and furans by 90 percent and particulate matter by 50 percent from 1994 levels of 880 grams/year and 9,500 tons/year, respectively. Regarding the target for permit renewals, EPA will develop a methodology to track renewals and perform outreach with the states to encourage them to enter these data into their systems. The Agency anticipates setting an annual performance goal for FY 2006. For the hazardous waste facility emissions, EPA plans to have the Maximum Air Control Technology (MACT) revised standards promulgated in 2005 pursuant to a settlement agreement among the parties to that litigation.

RCRA Waste Minimization and Recycling

RCRA directs EPA to promote a reduction in the amount of waste generated and to improve recovery and conservation of materials through recycling. The RCRA program emphasizes a national policy focusing on a hierarchy of waste management options that advocates source reduction, reuse and recycling over treatment and disposal.



As depicted in the waste universe diagram, 2.6 billion tons of solid waste is generated annually by America's industries, businesses, institutions, and individuals. If disposed, these wastes represent a huge potential liability to health, the environment, and the economy. When mismanaged, the more hazardous substances in these wastes, such as persistent,

bioaccumulative, and toxic organics, can cause severe damage to biota, air, and water resources. Even more benign waste materials such as scrap tires pose danger when stockpiled, serving as habitat for disease-transmitting rodents and mosquitoes, and igniting into dangerous and unhealthy fires which can burn for months, polluting the air, land, and surface and ground water. Disposal of waste materials squanders valuable resources which could otherwise be reused, recycled, or converted to useful energy. Reuse and recycling avoid the financial and environmental costs of extracting, harvesting, and processing virgin materials as well as the costly burden of waste disposal. Proper handling and disposal of these burgeoning wastes are a burden to society through their potential liability as well as through the direct costs of waste management. Industries, businesses, institutions, and individuals spend millions of dollars each year on waste management. Emissions from waste disposal can contribute to global warming and contaminate surface and ground water supplies. Potential emissions from waste disposal must be controlled or mitigated, adding to the costly burden of waste management. As disposal facilities become depleted, new land must be taken from productive use and converted, at substantial cost, to an acceptable disposal facility.

Reducing waste generation has clear benefits in combating the ever-growing stream of Municipal Solid Waste (MSW). MSW includes waste generated from residences, commercial establishments, institutions, and industrial non-process operations. Annual generation of MSW grew steadily from 88 million to 232 million tons between 1960 and 2000.¹³ In FY 2005, EPA's municipal solid waste program will implement coordinated strategies to achieve its strategic target of maintaining the national average municipal solid waste generation rate to no more than 4.5 pounds per person per day. These strategies will include source reduction (also called waste prevention), recycling (including composting), combustion with energy recovery, and land filling. Preference will be given to strategies that maximize the diversion of waste from disposal facilities, with source reduction (including reuse) as the highest priority. Implementation of these strategies will result in an ambitious increase in the total annual portion of MSW recycled nationally from 31 percent in 2002 to 35 percent by FY 2005.

Influencing the nation's waste generation is a daunting task. In the calendar year 2000, the growth of recycling slowed from the pace in the early 1990s.¹⁴ Several factors, such as reaching audiences where recycling is more difficult (e.g., high rise apartments, office and business settings, and public facilities) and changes in the waste stream (e.g., rapid turnover of new electronics products, increased packaging from e-commerce and new beverage containers) have contributed to a slower growth than expected in the recycling rate. EPA intends to overcome these barriers by implementing a diversified strategy through the Resource Conservation Challenge (RCC).

¹³ U.S. Environmental Protection Agency: October 2003. Municipal Solid Waste in the United States: 2001 Facts and Figures, Executive Summary. Washington, D.C. U.S. Government Printing Office. Available online at <http://epa.gov/epaoswer/non-hw/muncpl/msw99.htm>. Last updated November 5, 2003.

¹⁴ U.S. Environmental Protection Agency: October 2003. Municipal Solid Waste in the United States: 2001 Facts and Figures, Executive Summary. Washington, D.C. U.S. Government Printing Office. Available online at <http://epa.gov/epaoswer/non-hw/muncpl/msw99.htm>. Last updated November 5, 2003.

In the hazardous waste arena, along with the waste minimization partnerships discussed in Goal 5, the Agency will be reviewing where regulatory innovations can increase the rate of recycling. EPA will issue a rule encouraging the recycling of lead-containing cathode ray tubes (CRTs), and investigate whether other electronic devices are being recycled safely and how electronics recycling can be increased. In addition, the Agency will work with specific industry sectors (e.g., printing and metal finishing) on innovative approaches to promote safe recycling.



EPA launched the RCC as a major national effort to find flexible, yet more protective ways to conserve our valuable natural resources through waste reduction, energy recovery and recycling. Through the RCC, EPA challenges every American to prevent pollution and promote recycling and reuse; and conserve energy and materials.

In FY 2005, EPA's strategy for reducing waste generation and increasing recycling will focus on three key principles:

- Establishing and expanding partnerships by promoting the RCC
- Stimulating infrastructure development, product stewardship and new technologies
- Providing education, outreach, training and technical assistance

Establishing and expanding partnerships by promoting the RCC: One strategy for accomplishing these objectives is to build and foster voluntary partnerships with industries, states, Tribes, and other entities. These partnerships provide smarter, faster, voluntary solutions that reduce adverse effects to land.

One example of a RCC voluntary partnership is the Coal Combustion Products Partnership (C²P²). The purpose of C²P² is to increase the use of coal combustion products (CCPs) in construction and to promote other beneficial uses of CCPs. Use of CCPs: reduces future greenhouse gas emissions (when it displaces the need for Portland cement in concrete); reduces the need for additional landfill capacity; and reduces the need for mining virgin resources. This partnership was launched in January 2003 and already has 50 partners. In 2005, EPA will continue to work with the Utility Solid Waste Activity Group (USWAG), the American Coal Ash Association (ACAA), and other stakeholders that manufacture, purchase, or use coal combustion products to provide EPA with a more effective solution to enhance CCP diversion from disposal and explore the beneficial use of these valuable products.

EPA's nationally recognized programs, such as WasteWise, serve as models for the RCC by establishing and expanding partnerships among Federal, state, and local governments and businesses. These partnerships capitalize on voluntary efforts to reduce waste and increase recycling. In FY 2003, WasteWise grew to more than 1,300 partners. Partners recycled over 9

million tons of waste, and prevented over 400,000 tons of waste. EPA estimates that these WasteWise partners' efforts have prevented the emission of nearly 3.5 million metric tons of carbon equivalent, similar to removing more than 2 million cars from the road for one year.¹⁵

In FY 2005, EPA's WasteWise program will pursue new collaborations with states to enhance partner services, reduce duplication of effort between the Federal and state governments and encourage prospective organizations to join the program. In addition to these expanded state collaborations, the WasteWise program will facilitate progress within its 81 member Federal partner organizations and 40 Tribal organizations. EPA also plans to continue its WasteWise annual awards program to recognize partners who report significant achievements in waste prevention, recycling, and buying or manufacturing recycled-content products.

Jobs Through Recycling (JTR) is another RCC program that has an active network of state and Regional contacts who develop innovative programs and provide useful information to recyclers and related businesses.¹⁶ Since launching JTR in 1994, EPA has awarded more than \$7.2 million in grants to 36 states, five Tribes, and three multi-state organizations. Also, a review of four well-established programs shows that an investment of \$1 million in JTR grants has helped businesses create more than 1,700 jobs and \$290 million in capital investment. In FY 2005, JTR will continue to promote their core programs.

EPA also plans to expand its efforts to encourage resource conservation and safe management of construction and demolition (C&D) debris. EPA will work to establish a formal partnership with the military services to make deconstruction a standard operating procedure, and meet specific, quantitative building deconstruction goals. Unlike demolition, which completely destroys a structure, deconstruction takes a structure apart and preserves valuable components for reuse. EPA will also expand coordination with state, local, and Tribal governments to address C&D debris issues, including the management of lead-based paint and other problematic components of the C&D waste stream. Finally, in FY 2005 EPA plans to increase the number of partners participating in the Building Challenge, begun in FY 2002 under WasteWise. The Building Challenge is a voluntary partnership that provides its partners with technical assistance and recognition for reducing C&D waste and for purchasing recycled-content building products. Currently, twenty-two partners have made the Building Challenge pledge.

Stimulating infrastructure development, product stewardship, and new technologies: In FY 2005, EPA will promote strategies that make it easier for businesses and consumers to design and purchase more environmentally sensitive products, extend the life and usefulness of these products, and ensure the safe recycling or reuse of these products when one consumer no longer

¹⁵ Carbon equivalence was calculated using waste reduction quantities reported by the WasteWise partners and EPA's waste reduction model, as described in U.S. Environmental Protection Agency: May 2002. *Solid Waste.*

¹⁶*Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks.* Available online at <http://epa.gov/mswclimate/greengas.pdf> U.S. Environmental Protection Agency. Jobs Through Recycling Web Site: <http://www.epa.gov/jtr>. Washington, D.C. Last updated December 18, 2003.

needs them. The Agency has implemented several initiatives to establish voluntary product stewardship partnerships with manufacturers, retailers, recyclers, governmental and nongovernmental organizations to develop and implement sector-specific strategies.

For example, to address one of the RCC challenge areas - electronic waste – EPA is working with those in the information technology industry to develop projects that will significantly cut back on the amount of electronic waste produced each year. With today's increasing demand for faster computers, small cellular phones, and personal digital assistants (PDAs), electronic waste is the fastest-growing waste stream. Electronic products and components are made of valuable materials that should be reused or recycled and can contain hazardous materials, such as lead and mercury, thus posing environmental problems when disposed of improperly. In FY 2005, EPA will continue to support the Electronics Product Environmental Assessment Tool (EPEAT). EPEAT is a purchasing tool used to drive design innovations by manufacturers. In FY 2005, EPEAT will be finalized, incorporating feedback from its use during a pilot phase, and an independent organization will launch EPEAT. Also on the design front, EPA will extend the Federal Electronics Challenge in FY 2005 to additional Federal agencies. The Challenge will use the EPEAT tool and guidelines for environmentally safe recycling.

Another important Agency-lead design effort targeted to the electronics sector is EPA's "Plug-In To eCycling" program. Through partnerships with private and public entities, Plug-In is making available to Americans more opportunities to recycle their old electronics and communicating why it is important to do so. EPA is focusing attention on reducing the waste stream as well as recycling waste that can not be eliminated, and will work with project partners in a summit to develop an action plan for identifying and carrying out voluntary, shared responsibility roles at a national level.

As part of the National Electronics Product Stewardship Initiative (NEPSI), EPA will continue to work with electronics manufacturers, recyclers, retailers, state and local governments, and non-governmental to collect and finance the recycling of old consumer electronics. In FY 2005, EPA plans to use the finalized environmentally safe management guidelines for end-of-life electronics as part of the national voluntary recycling program and the Federal Electronics Challenge. These guidelines are intended to optimize resource recovery and minimize risks during recycling.

Carpet America Recover Effort (CARE) is an industry-led, multi-stakeholder effort to build and strengthen the carpet reclamation and recycling infrastructure. This voluntary partnership seeks to divert 40 percent of carpet from landfills by calendar year 2012 through recycling, reuse, and other waste recovery and waste minimization activities. In FY 2005, EPA will promote efforts to increase state support for CARE's mission, provide technical and financial assistance for market development, and develop and promote procurement specifications for recycled content carpet.

An increasing number of EPA partners are saving money and reducing waste by using resource management (RM) contracting. This contracting system, pioneered by General Motors Corp., increases resource efficiency by aligning waste contractor incentives with the goals of waste reduction. For example, an RM contract might cap disposal costs based on current costs and then include a gain-sharing arrangement for waste reduction projects initiated by the contractor. EPA has developed the *Resource Management Contracting Manual* and will promote its use through the WasteWise network, provide technical assistance to organizations interested in using this type of contracting approach, and document resource efficiency gains made by organizations using RM. In addition, EPA is tracking activities being undertaken by developing countries to further increase reuse, recycling, and energy recovery from materials typically considered wastes. The Agency will continue this effort in FY 2005.

In the area of new technologies, EPA is promoting flexible innovative ways to convert waste to energy. The Agency considers gasification to be desirable technology for this conversion and will work in FY 2005 to promote a positive regulatory program that encourages the use of waste materials as a feedstock to gasifiers. To do this, the Agency will assess those components of the regulatory structure in all media that can affect the use of waste in gasification and consider any changes to the regulations that could promote the efficient and safe use of wastes as gasification feedstock.

In FY 2005, EPA will also revisit the impact of revising the RCRA hazardous waste program to allow a conditional exclusion from the definition of solid waste for hazardous oil-bearing secondary materials, generated by the petroleum refinery industry, when these materials are processed in a gasification system that produces synthesis fuel and other non-fuel chemical by-products. The response to the initial proposal to do this suggested EPA broaden its scope of activity past the hazardous waste program into the use of other waste streams, such as municipal and agricultural waste, as possible feedstock to gasifiers. The Agency will look into developing a “how to” manual for municipalities who might need technical and programmatic support to use gasification as a technology to solve solid waste disposal problems and generate a source of power.

EPA will work with several Federal agencies including the Department of Energy (DOE) and the Department of Agriculture (USDA) as well as industry, states, and municipalities to facilitate using gasification technology, encouraging recycling through new technology by removing regulatory barriers to safe hazardous waste and materials recycling.

EPA will also investigate regulatory innovations, including appropriate rules, guidance, and other outreach materials, to increase the safe recycling of hazardous wastes and enhance the recovery of hazardous materials. The Agency will emphasize efforts that minimize use of hazardous constituents and maximize recovery of hazardous materials. EPA plans to complete a regulation that revises the Definition of Solid Waste to be consistent with the guidance provided by the D.C. Circuit Court of Appeals in *Association of Battery Recyclers v. EPA*. The Agency will also continue to further define “discard” of materials destined for reuse and recycling.

In FY 2005, EPA will address new issues raised in regard to the Definition of Solid Waste. Some concerns that are voiced by environmentalists involve limiting recycling with respect to a "continuous process within the same industry" to on-site recycling, and not allowing recycling to occur off-site without the material being regulated as a hazardous waste. Industry groups raise different issues and challenge EPA's definition of the term "continuous process within the same industry." Depending on the number of issues, their complexity, and the need for additional study, the Agency anticipates making significant progress developing regulations. In addition, EPA will continue to collaborate with Regions and states to clarify or revise existing policy guidance to address these new issues. The Agency will also track developments in the Organization for Economic Cooperation and Development and other developing countries aimed at increasing the reuse or recovery of hazardous residuals.

At the same time, EPA will focus on specific industry sectors, such as metal finishing. EPA plans to establish regulations tailored to the risk posed by metal finishing waste when recycled. Compliance with these regulations is expected to be less costly than for the existing hazardous waste regulations. EPA will also work with academic laboratories to tailor RCRA regulations to achieve maximum efficiency while continuing the high level of human health and environmental protection. This effort is designed to reduce the use of constituents and chemicals of concern and educate high school and university students on safe handling methods. The goal is to promote environmental stewardship within academia so that, once students graduate, they can integrate environmental values into their workplace and lives.

Lastly, the RCC explores ways to obtain energy or products from waste through alternative energy sources. EPA currently allows certain industrial byproducts that are comparable to fossil fuels to be used for energy production, which saves energy by reducing the amount of hazardous waste that would otherwise be treated and disposed, promotes energy production from a domestic, renewable source, and reduces use of fossil fuels. Further, EPA is examining the effectiveness of the current comparable fuel program and considering whether other byproducts could be safely used as fuel as well.

Providing education, outreach, training and technical assistance: By spreading the conservation and recycling message to consumers, youth, senior citizens, and under-served communities, EPA encourages the personal commitment of Americans to reduce their waste generation and increase their recycling efforts. In FY 2005, EPA will build on the success of existing outreach products and educational tools to promote waste reduction, recycling, and neighborhood revitalization in Hispanic and African-American communities and on Native American lands. Two major media campaigns have been launched to encourage urban African Americans to reduce and recycle waste. These public service announcements aired on 50 radio stations in major African-American media markets nationwide.

EPA also launched a campaign to encourage Hispanic-Americans to recycle used oil, with such major oil recyclers as the Automotive Oil Change Association (AOCA) and the National Oil Recycling Association (NORA). EPA will expand its outreach to the Hispanic community in FY 2005 through a campaign aimed at identifying household hazardous wastes

and providing information on proper waste management and disposal. Materials will be written and printed in Spanish as well as in English, in a format and language appropriate to the Hispanic culture.

In October 2003, the Agency launched its “Make a Difference” campaign at a Youth Environmental Symposium, co-sponsored with the City of San Diego Environmental Services Division. Over 400 junior and high school students attended a morning of workshops and presentations to help them make environmentally-conscious decisions about their day-to-day activities.

In FY 2005, EPA will continue its youth campaign by developing outreach materials on green purchasing, recycling used motor oil, and life cycle posters that target products used everyday, such as cell phones. These materials are intended to encourage students and teachers to make a difference in the environment and to start innovative recycling programs in their schools and communities.

Also in FY 2005, the Agency will initiate a campaign on the environmental issues and needs surrounding the elderly. Outreach materials and activities will focus on such topics as green purchasing, moving (downsizing homes, lifestyles), home offices, e-cycling and travel/leisure.

RCRA Waste Management

The Agency’s 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 non-hazardous, and municipal solid wastes.

Recognizing that some hazardous wastes cannot be completely eliminated or recycled, the RCRA program works to reduce exposure to hazardous wastes by maintaining a cradle-to-grave approach to waste management. The program’s primary focus is to prevent hazardous releases from RCRA facilities and reduce emissions from hazardous waste combustion. In FY 2005, this will be accomplished by providing greater regulatory flexibility where appropriate and promoting opportunities for converting waste to energy.

A combination of regulations, permits, voluntary standards, and programs help to ensure safer management of these various wastes. If these wastes are not properly managed, new contaminated waste sites that threaten nearby communities could result. This approach regulates the generation, 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 2005, by using Express Authorization, states will save the time and paper work currently required to receive authorization. The RCRA program will continue its strong partnerships with 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,¹⁷ the Agency proposed standardized permit procedures. EPA anticipates promulgating the final rule in 2004. In 2005, the RCRA program plans to give guidance and training necessary for the Agency and states to implement this rule. In addition, in FY 2005 the program will continue to work in partnership with the states to incorporate e-permitting approaches into the RCRA permitting program. Dissemination of the e-permitting tools developed in prior years and development of additional components will encourage and facilitate states to expedite and simplify the permitting process and provide better public access to permitting information.

To tap into the power of voluntary programs to achieve broad, yet practical environmental progress, the Agency will promote and facilitate the adoption of Environmental Management Systems (EMS) at RCRA facilities. EPA intends to partner with the states on pilot implementations and work through the permit modification and renewal processes. The goal is to make permits more “EMS-friendly.”

In FY 2005, EPA will promulgate the final dyes and pigments listing determination completing all of the court ordered listing determinations. The promulgation of this listing determination will culminate more than a decade long effort. The Agency will also assess additional hazardous waste identification work, identify priorities, and initiate necessary changes through non-regulatory or regulatory approaches to ensure protection of human health and the environment.

To better calibrate risk and regulatory standards, in 2005, the Agency will consider the need to develop additional targeted exemptions from the hazardous waste mixture and derived-from rules. The Agency will identify priorities for additional targeted exemptions as well as review changes to existing exemptions in relation to other programmatic changes.

In FY 2005, the Agency will finalize a rule establishing a consistent national approach for managing used industrial wipes, shop towels and rags containing hazardous solvents. As part of this effort, EPA will initiate development of implementation guidance to assist the thousands of small businesses, which routinely use these particular materials.

¹⁷ Federal Register Notice of Proposed Rulemaking: 66 FR 52191

In FY 2005, the Agency will also experiment with projects that test alternative regulatory requirements. For example, EPA will review and identify alternative approaches to the current waste generator regulations, identifying opportunities to streamline the regulations and reduce the burden on generators. To encourage energy conservation, EPA will continue to partner with the automotive and fuel industries to address any RCRA barriers to emerging technologies, such as fuel cells.

Another area where the Agency will seek to improve waste management practices involves the hazardous waste manifest system, used for tracking cradle to grave waste transportation of waste from a generator to a treatment, storage, or disposal facility. 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.¹⁸ In FY 2004, the Agency expects to finalize the manifest form changes supported by both industry and states. In FY 2005, EPA will develop standards and systems for preparing, signing, and transmitting manifests electronically.

In FY 2005, EPA will focus on ways to eliminate mercury releases, reduce mercury use in products and processes, and ensure safe storage and disposal of mercury. In early 2004 EPA will begin to negotiate an agreement with Electric Arc Furnace mini-mills that they only accept automobile scrap that is free of mercury switches. In addition to this voluntary effort, the Agency is accelerating its MACT rulemaking that would cover these mini-mills. Also, EPA plans to work with the American Dental Association to foster proper management of dental amalgam; consider partnerships with industry to promote the use of mercury-free alternatives; address the beneficial reuse of mercury from coal combustion units; and expand an existing regional program to reduce mercury air emissions from operating gold mines.

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. 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.¹⁹ The Agency must respond to the court's decision with revised standards to those proposed in FY 2004 and promulgated in FY 2005 pursuant to a settlement agreement among the parties to that litigation. Technical assistance will be critical during the next few years to appropriately control these major sources of hazardous air pollutants as interim standards become effective. The interim standards became effective in September 2003. Under a second settlement agreement, 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).

¹⁸ Federal Register Notice of Proposed Rulemaking: 66 FR 28239

¹⁹ This rule, published in 64 FR 52828, September 30, 1999 was challenged in *Cement Kiln Recycling Coalition v. EPA*, 255 F. 3d 855 (D.C. Cir.2001)

In 2003, the Agency began working with the Association of State and Territorial Solid Waste Management Officials to improve the financial assurance regulations for the RCRA program. The financial assurance regulations reduce the number of sites that must be cleaned up under either state or Federal authorities (such as Superfund removals), by requiring facilities to have financial assurance for third party liability, closure, and completion of corrective action. In FY 2005 the Agency and states will be determining which areas of the program need further attention and how to improve the program.

The Agency will continue to implement its strategy for revising its municipal solid waste landfill criteria in FY 2005. Revisions will provide additional flexibility for states and the regulated community. Revisions will also 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.²⁰ 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 DOE 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 2005, EPA will continue to work with USDA, DOE, and states to coordinate and promote a unified national bio-energy strategy.

The Agency will also work 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.²¹ In FY 2005, EPA will assist facility managers, state and Tribal regulators, and the interested public use the voluntary “Guide for Industrial Waste Management,” developed by EPA and its partners in FY 2003, and will modify the Guide as needed to improve its usefulness to all environmental partners.

Waste management in Indian Country is one of the highest environmental and public health priorities for Federally-recognized Indian tribes. Under RCRA, the responsibility for solid

²⁰ U.S. Environmental Protection Agency, Office of Solid Waste Web Site: <http://www.epa.gov/epaoswer/non-hw/muncpl/landfill/bioreactors.htm>. Specific studies can be found at <http://epa.gov/ord/NRMRL/Pubs/625R01012/625R01012.pdf>; <http://www.epa.gov/projectxl/yolo/index.htm>; <http://www.epa.gov/epaoswer/non-hw/muncpl/landfill/bio-work/index.htm>.

²¹ Data for 1982 from “Screening Survey of Subtitle D Establishments. Draft final report. U.S. Environmental Protection Agency, Office of Solid Waste, December 1987. “Nonhazardous Waste: Environmental Safeguards for Industrial Facilities Need to Be Developed.” Report to the Chairman, Subcommittee on Transportation and Hazardous Materials, Committee on Energy and Commerce, House of Representatives. April 1990

and hazardous waste program management in Indian country rests with EPA. Even though EPA has been implementing programs in Indian country for many years, major gaps still exist. Improper solid and hazardous waste management practices are widespread, posing significant environmental and public health threats. For example:

- Over 44% of the 572 recognized Tribes have no waste management program at all.
- 24% of Tribes state that open dumps are their primary method of solid waste disposal.
- 16% indicate that burn barrels are their primary method of disposal.
- 35% state that recycling is their last or next to last management option.
- Over 100 high threat open dumps exist on Tribal lands.

In concurrence with statutory and trust responsibilities, in FY 2005 EPA will focus resources on waste program development and implementation in Indian country. Environmental results will be achieved primarily by building sustainable Tribal solid and hazardous waste management programs. These programs will include items such as integrated waste management plans/development of Tribal capacity to implement them; increase recycling/reuse programs; new mechanisms to combat illegal dumping; and increased attention to EPA's direct implementation responsibilities. Initial performance measures will focus on the number of tribes with waste management programs.

EPA will continue its leadership of the Tribal Solid Waste Interagency Workgroup. EPA will strengthen its partnerships and continue to work closely with agencies such as the Bureau of Indian Affairs, the Indian Health Service, and USDA's Rural Utilities Service to build programs, improve waste management, and work towards the most efficient and effective solutions to provide the greatest positive impact on human health and the environment. Open dumps are of particular concern for Tribes. A 1998 report to Congress by the Indian Health Service identified 142 high-threat open dumps on Tribal lands.²² Since 1999, the Interagency Workgroup has provided over \$6.0 million to thirty-one Tribes to clean up open dumps and \$3.1 million to 47 Tribes to develop hazardous waste management programs. EPA will also strengthen its partnerships with Tribal governments and form partnerships with others to deal more effectively with waste management issues. In addition, EPA will develop specific educational programs and outreach tools on solid and hazardous waste issues, such as the recently completed Tribal Decision Makers' Guide.

Categorical Grant: Hazardous Waste Financial Assistance

The RCRA statute authorizes EPA to assist state governments in the development and implementation of an authorized hazardous waste management program for the purpose of controlling the generation, transportation, treatment, storage and disposal of hazardous wastes. These grants to states strengthen their ability to implement all aspects of the hazardous waste

²² Indian Health Service Web Site: http://www.ihs.gov/NonMedical/Programs/DFEE/Solid_W/1998_ODReport/1998OpenDumpsReport.pdf.

program (hazardous waste recycling and waste minimization, permitting, authorization, combustion, enforcement and tribal assistance). The states propose legislation and upgrade regulations to achieve equivalence with the federal hazardous waste management program, and apply to EPA for authorization to administer the program. This program provides Performance Partnership Grants to states.

This account also provides funding for the direct implementation of the RCRA program by Region 7 and 10 for the States of Iowa and Alaska, respectively, which are not authorized to administer the program.

In FY 2005, the following activities will be accomplished using categorical grants:

- Issue post-closure permits or use appropriate enforcement mechanisms to address environmental risk at inactive land disposal facilities and put “approved controls” in place.
- Approve closures plans for interim status treatment and storage facilities that are not seeking permits to operate.
- Review and decide on permit renewals and modifications for hazardous waste management facilities.
- Provide input to the RCRA Info National Reporting System to support higher quality, more useable, and more accessible information.
- Operate comprehensive compliance monitoring and enforcement actions related to the RCRA hazardous waste program.
- Provide funding for the Direct Implementation of the RCRA program by Region 7 for the State of Iowa and Region 10 for the State of Alaska.

LUST/UST (UST portion only)

In managing petroleum products properly, the Agency will work with states, Tribes and Intertribal Consortia to prevent, detect, and correct leaks into the environment from federally-regulated underground storage tanks containing petroleum and hazardous substances. Achieving significant improvements in release prevention and detection will require a sustained emphasis by both EPA and its partners. Concerns about the use of fuel oxygenates (e.g., methyl-tertiary-butyl-ether, or MTBE) in gasoline further underscores EPA’s and the states’ emphasis on promoting compliance with all UST requirements.

To this end, by FY 2008, EPA intends to increase the percentage of UST facilities in significant operational compliance with both release detection and prevention requirements by 4 percent compared to 2004, out of a total estimated universe of approximately 258,000 facilities. (The baseline compliance rate will be determined in FY 2004, but is estimated to be approximately 60%.) EPA previously reported progress in meeting each of these requirements, but combined them per the recommendations of an EPA/state workgroup to improve consistency in reporting the national data. Most states are applying more stringent criteria to determine the progress in attaining operational compliance with the two requirements. In FY 2003, the

universe of UST facilities was approximately 258,000. Additionally, each year through FY 2008, EPA and its partners will seek to limit the number of confirmed releases at UST facilities to no more than 10,000. Between FY 1999 and FY 2003, confirmed releases averaged 13,600.

EPA recognizes that the size and diversity of the regulated community puts state authorities in the best position to regulate USTs and to set priorities. RCRA Subtitle I allows state UST programs approved by EPA to operate in lieu of the Federal program. While the frequency and severity of releases from UST systems have been greatly reduced, EPA and its state partners note that releases are still occurring. EPA continues to work with its state and Tribal partners to prevent and detect petroleum releases from USTs by ensuring that compliance with both release detection and prevention requirements (spill, overfill, and corrosion protection) is a national priority. While most of the approximately 683,000 active underground storage tanks (located at UST facilities) have the required equipment, significant work remains to ensure that UST owners and operators maintain and operate their systems properly. Therefore, in FY 2005, the Agency will continue to work with states and industry to improve UST system performance based on the results of the UST system evaluation work. The Agency will also continue to monitor UST system performance and evaluate certain aspects of performance in more detail.

To protect groundwater and drinking water from petroleum releases, EPA will continue to support core development and implementation of state and tribal UST programs; strengthen partnerships among stakeholders; and provide technical assistance, compliance assistance, and training to promote and enforce UST facilities' compliance. For example, as part of a national UST training effort, initiated in FY 2003 by an EPA/state and industry workgroup, EPA will continue to provide web-based training modules that address topics such as cathodic protection, leak detection, spill containment, and overfill protection components of the UST system. The training modules will provide UST inspectors with core and advanced knowledge on how to inspect an UST system. In addition, EPA will continue its work to obtain states' commitments to increase their inspection and enforcement presence if state-specific goals are not met. The Agency and states will continue to use innovative compliance approaches, along with outreach and education tools, to bring more tanks into compliance. For example, programs that allow tank owners to self-certify by conducting rigorous self-audits through EPA's environmental results program, third-party inspections, and multi-site agreements can be effective in bringing a single tank owner with multiple sites into compliance.

The Agency will also provide guidance to foster the use of new technology to enhance compliance. For example, the presence of MTBE in gasoline increases the importance of preventing and rapidly detecting releases, since MTBE cleanups can cost 100 percent more than cleanups involving other gasoline contaminants. The Agency will focus its efforts on reducing UST releases and increasing early detection of petroleum products, including MTBE, by further evaluating the performance of compliant UST systems.

Categorical Grant: Underground Storage Tanks

This program provides RCRA 2007(f) (2) grants to states and Public Law 105-276 grants to tribes to build core state and tribal UST programs. The objective of this grant funding is to assist state governments and Indian nations in the development and implementation of UST programs. EPA recognizes that the size and diversity of the regulated community puts state authorities in the best position to regulate USTs and to set priorities. RCRA Subtitle I allows state UST programs approved by EPA to operate in lieu of the Federal program. Except in Indian country, even states that have not received formal state program approval from EPA are in most cases the primary implementing agencies and receive annual grants from EPA.

For example, UST categorical grant funding is used to assist states and tribes to conduct inspections of underground storage tanks; in encouraging owners and operators to properly operate and maintain their USTs; ensure owners and operators routinely and correctly monitor all regulated tanks and piping in accordance with the regulations; and develop state programs with sufficient authority and enforcement capabilities to operate in lieu of the federal program.

EPA has the primary responsibility for implementation of the UST program in Indian Country. Grants under Public Law 105-276 will continue to help Tribes develop the capacity to administer UST programs. For example, funding is used to support training for tribal staff, educate owners and operators in Indian Country about the UST requirements; and maintain information on USTs located in Indian Country.

This grant funding may be used in Performance Partnership Agreements with states and tribes. A state or tribe could elect to consolidate this and other categorical media grants into one or more multi-media or single media grant. The state or Tribe could then target its most pressing environmental problems and use the performance partnership grant for a number of activities including pollution control, abatement and enforcement. This program will not compromise basic national objectives and legislative requirements.

In FY 2005, EPA is requesting an additional \$26 million in STAG funding over the FY 2004 President's budget request. The additional funds will allow EPA to fund additional state inspections of underground storage tanks.

FY 2005 CHANGE FROM FY 2004

EPM

- (+1,470,500) Internal decisions to centralize LAN funding and provide support to the Land Revitalization initiative have resulted in an increase to the RCRA: Waste Minimization and Recycling program.

STAG

- (+ \$26,000,000) In FY 2005, EPA is requesting an additional \$26 million in STAG funding over the FY 2004 President's budget request. The additional funds will allow EPA to fund additional state inspections of underground storage tanks.

ANNUAL PERFORMANCE GOALS AND MEASURES

GOAL: LAND PRESERVATION AND RESTORATION

OBJECTIVE: PRESERVE LAND

Municipal Solid Waste Source Reduction

- In 2005 Divert an additional 1% (for a cumulative total of 35% or 81 million tons) of municipal solid waste from land filling and combustion, and maintain per capita generation of RCRA municipal solid waste at 4.5 pounds per day.
- In 2004 Divert an additional 1% (for a cumulative total of 34% or 79 million tons) of municipal solid waste from land filling and combustion, and maintain per capita generation of RCRA municipal solid waste at 4.5 pounds per day.
- In 2003 End of year FY 2003 data will be available in December 2005 to verify that an additional 1% (for a cumulative total of 32% or 74 million tons) of municipal solid waste from land filling and combustion, and maintain per capita generation of RCRA municipal solid waste at 4.5 pounds per day was diverted.

Performance Measures:

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Millions of tons of municipal solid waste diverted.	Data available in December 2005	79	81	million tons
Daily per capita generation of municipal solid waste.	Data available in December 2005	4.5	4.5	lbs. MSW

Baseline: An analysis conducted in FY 2001 shows approximately 68 million tons (29.2%) of municipal solid waste diverted and 4.4 lbs of MSW per person daily generation. While data indicate that the growth in recycling rates has slowed, the target of a 35% recycling rate is being maintained.

Waste and Petroleum Management Controls

- In 2005 Reduce releases to the environment by managing hazardous wastes and petroleum products properly.
- In 2004 Reduce releases to the environment by managing hazardous wastes and petroleum products properly.
- In 2003 For UST facilities, 72% are in operational compliance with leak detection, and 79% are in operational compliance with spill prevention requirements. An additional 4.1% of the RCRA facilities have permits or approved controls.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Percent increase of RCRA hazardous waste management facilities with permits or other approved controls.	4.1%	2.4%	2.8%	percentage pts.
Number of confirmed UST releases nationally.		<10,000	<10,000	UST releases
Increase in UST facilities in significant operational compliance with leak detection requirements.	-8%	4%	Not applicable	percentage pts.
Increase in UST facilities in significant operational compliance with spill, overfill and corrosion protection regulations.	-6%	4%	Not applicable	percentage pts.
Percent increase of UST facilities in significant operational compliance with both detection and release prevention (spill overflow, corrosion protection) requirements.			1%	percent

Baseline: EPA did not increase by 3% to 80% for the leak detection requirements or with spill, overfill and corrosion protection requirements by 3% to 85% in FY 2003. The FY 2003 actuals were 72% for UST facilities in significant operational compliance with leak detection requirements; 79% for UST facilities in significant operational compliance with spill, overfill and corrosion protection. Although the Agency has been working with the states to improve their reporting of both measures, the compliance rates for both have been steady or declining. There is some variability in reporting by states because some states have more stringent requirements, while other states have targeted non-compliant UST facilities so the facilities that are inspected are not representative of all facilities in the state. A baseline for the new combined measure will be determined in FY 2004, and is currently estimated to be approximately 60%. Between FY 1999 and FY 2003, confirmed UST releases averaged 13,600. By the end of FY 2003, 83.1% of approximately 2,750 RCRA facilities had permits or other approved controls in place.

VERIFICATION AND VALIDATION OF PERFORMANCE

FY 2005 Performance Measure:

- **Daily per capita generation**
- **Millions of tons municipal solid waste diverted**

Performance Database: Data are provided by the Department of Commerce. EPA does not maintain a database for this information.

Data Source: The baseline numbers for municipal solid waste source reduction and recycling are developed using a materials flow methodology employing data largely from the Department of Commerce and described in the EPA report titled "Characterization of Municipal Solid Waste in the United States." The Department of Commerce collects solid waste generation and recycling rate data from various industries.

Methods, Assumptions and Suitability: Data on domestic production of materials and products are compiled using published data series. U.S. Department of Commerce sources are used, where available; but in several instances more detailed information on production of goods by end-use is available from trade associations. The goal is to obtain a consistent historical data series for each product and/or material. Data on average product lifetimes are used to adjust the data series. These estimates and calculations result in material-by-material and product-by-product estimates of MSW generation, recovery, and discards.

There are various assumptions factored into the analysis to develop estimates of MSW generation, recovery and discards. Example assumptions (from pages 141-142 of year 2000 “Characterization Report” include: Textiles used as rags are assumed to enter the waste stream the same year the textiles are discarded. Some products (e.g., newspapers and packaging) normally have short lifetime; products are assumed to be discarded in the year they are produced.

QA/QC Procedures: Quality assurance and quality control are provided by the Department of Commerce’s internal procedures and systems. The report prepared by the Agency, “Characterization of Municipal Solid Waste in the United States,” is then reviewed by a number of experts for accuracy and soundness.

Data Quality Review: The report, including the baseline numbers and annual rates of recycling and per capita municipal solid waste generation, is widely accepted among experts.

Data Limitations: Data limitations stem from the fact that the baseline statistics and annual rates of recycling and per capita municipal solid waste generation are based on a series of models, assumptions, and extrapolations and, as such, are not an empirical accounting of municipal solid waste generated or recycled.

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

New/Improved Data or Systems: Because the statistics on MSW generation and recycling are widely reported and accepted by experts, no new efforts to improve the data or the methodology have been identified or are necessary. EPA plans to develop regulations for improving reporting of source reduction activities by TRI reporting facilities.

References: *Municipal Solid Waste in the United States: 1999 Facts and Figures*, EPA, July 2001 (EPA 530-R-01-014), <http://www.epa.gov/osw/index.htm>

FY 2005 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's Regional offices 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 EPA's Regional offices 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 (at <http://www.epa.gov/rcrainfo/>) 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. The data that support the performance for the GPRA goals is of far better quality than the handler data in general (including generators). Determination of whether or not the GPRA annual goals are met is based on the legal and operating status codes for each unit (e.g., a facility can have more than one unit). In 1999 and 2000 there was a focused effort to update this information for the baseline facilities in RCRAInfo. RCRAInfo is the sole repository for this information and is a focal point in planning from the local to national level.

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.

Data Quality Review: The Government Accounting Office's (GAO's) 1995 Report on EPA's Hazardous Waste Information System <http://frebgate.access.gpo.gov/cgi-bin/> (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. The states have ownership of their data and EPA has to rely on them to make changes. The data that determine if a facility has met its permit requirements are prioritized in update efforts. Basic site identification data may

become out-of-date because RCRA does not mandate annual or other periodic notification by the regulated entity when site name, ownership and contact information changes. Nevertheless, EPA tracks the facilities by their IDs and those should not change even during ownership 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>

FY2005 Performance Measure:

- **Percentage of UST facilities that are in significant operational compliance with both release detection and release prevention (spill, overfill, and corrosion protection) requirements.**
- **Number of confirmed releases at UST facilities nationally**

Performance Database: The Office of Underground Storage Tanks (OUST) does not maintain a national database; the states maintain their respective databases and/or spreadsheets.

FY 2004 will be the first year of establishing the baseline for the new combined measure, the percentage of UST facilities that are in significant operational compliance with both release detection and release prevention (spill, overfill, and corrosion protection), which will be reported in the FY2005 Annual Report. EPA has previously reported progress in meeting each of these requirements separately. The new combined measure cannot be recalculated using the previous separate measures because there hasn't been a baseline prior to FY 2004. As there is no database for this information, a requirement to recalculate the baseline would be overly burdensome to the states.

Data Source: Designated state agencies submit semi-annual progress reports to the EPA's Regional offices.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: States submit their performance on an EPA-supplied form for review against national trends and historical data. Previously reported percentages and/or totals are compared to current values and states are notified of any discrepancies and/or anomalies.

Data Quality Review: EPA resolves any discrepancies and/or anomalies in the reported information through written explanations and/or justifications from the states and discussions.

Data Limitations: Percentages reported are sometimes based on estimates and extrapolations from sample data. The quality of the states' data depends on the completeness and accuracy of states' internal recordkeeping.

Error Estimate: Not calculated.

New/Improved Data or Systems: None.

References: FY 2003 Mid-Year Activity Report, June 19, 2003 (updated semi-annually)

EFFICIENCY MEASURES\MEASUREMENT DEVELOPMENT PLANS:

EPA continues to emphasize a strong multi-year focus on performance measure development. Measurement Development Plans (MDPs) describe efforts to fill identified measurement gaps so that progress toward developing fully-functioning measures, whether long-term or short-term, can be tracked. MDPs are useful tools that can be used to measure long-term strategic outcomes to be highlighted in the next strategic plan, to track current strategic targets that cannot be measured annually, or to highlight progress in addressing measurement gaps.

In this objective, the Agency is committing, in the 2003 Strategic Plan, to two strategic targets for which there are not yet annual performance measures for 2005. These 2008 targets are to update controls for preventing releases at 150 facilities that are due for permit renewal by the end of 2006, and to reduce hazardous waste combustion facility emissions of dioxins and furans by 90 percent and particulate matter by 50 percent from 1994 levels of 880 grams/year and 9,500 tons/year, respectively. Regarding the target for permit renewals, EPA will develop a methodology to track renewals and perform outreach with the states to encourage them to enter these data into their systems. The Agency anticipates setting an annual performance goal for 2006. For the hazardous waste facility emissions, EPA plans to have the MACT revised standards promulgated in 2005 pursuant to a settlement agreement among the parties to that litigation.

COORDINATION WITH OTHER AGENCIES

Resource Conservation and Recovery Act

Pollution prevention activities entail coordination with other Federal departments/agencies, such as the General Services Administration (use of safer products for indoor painting and cleaning), DOD (use of safer paving materials for parking lots), and Defense Logistics Agency (safer solvents). The program also works with the National Institute of Standards and Technology, the International Standards Organization, and other groups to develop standards for Environmental Management Systems.

In addition to business, industry and other non-governmental organizations, EPA will work with Federal, state, Tribal, and local governments to encourage reduced generation as well as the safe recycling of wastes. Frequently, successful programs require multiple partners to address the multi-media nature of effective source reduction and recycling. The Agency has brought together a range of stakeholders to examine alternatives in specific industrial sectors, and several regulatory changes have followed which encourage hazardous waste recycling. Partners in this effort include the Environmental Council of States, the Tribal Association on Solid Waste and Emergency Response, and the Association of State and Territorial Solid Waste Management Officials.

As Federal partners, EPA and the United States Postal Service (USPS) work together on several municipal solid waste projects. For instance, rather than dispose of returned or unwanted mail, EPA and the USPS developed and implemented successful recycling procedures and markets. For example, unwanted mail (advertisements, catalogues, etc.) is being returned to the Post Office for recycling rather than disposal by the recipient. In addition, Integrated Solid Waste Management Plans are being implemented at parks in western states because of Regional offices' assistance to the National Park Service. EPA also works with the Small Business Administration to provide support to recycling businesses.

The Federal government is the single largest potential source for "green" procurement in the country for office products as well as products for industrial use. EPA works with other Federal agencies and departments in advancing the purchase and use of recycled-content and other "green" products. In particular, the Agency is currently engaged with other organizations within the Executive Branch to foster compliance with Executive Order 13101 and in tracking and reporting purchases of products made with recycled contents.

In addition, the Agency is currently engaged with the DOD, Education and DOE, USPS, and other agencies to foster proper management of surplus electronics equipment, with a preference for reuse and recycling. With these agencies, and in cooperation with the electronics industry, EPA participated in developing a draft interagency memorandum of understanding (MOU) which will lead to increased reuse and recycling of an array of computers and other electronics hardware used by civilian and military agencies. Implementation of this MOU will divert substantial quantities of plastic, glass, lead, mercury, silver, and other materials from

disposal. Currently, EPA works with USDA and FDA on a variety of issues related to the disposal of agricultural products (food and/or animals), contaminated with chemical or biological pathogens.

State LUST programs are critical 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.

STATUTORY AUTHORITIES

Department of Veterans Affairs and Housing and Urban Development and Independent Agencies
Appropriation Act, Public Law 105-275; 112 Stat. 2461, 2499 (1998)

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

Resource Conservation and Recovery Act (RCRA) of 1976, as amended; (42 U.S.C. 6901-6992k) Public Law 94-580, 42 U.S.C. 6901 et seq.

Solid Waste Disposal Act (SWDA) of 1976, as amended by the Hazardous Waste Amendments of 1984, (Subtitle I); Section 8001(a); Tribal Grants: PL 105-276

Environmental Protection Agency

FY 2005 Annual Performance Plan and Budget Request

Land Preservation and Restoration

OBJECTIVE: Restore Land

By 2008, control the risks to human health and the environment by mitigating the impact of accidental or intentional releases and by cleaning up and restoring contaminated sites or properties to appropriate levels.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Restore Land	\$1,454,821.4	\$1,508,646.8	\$1,503,465. 6	(\$5,181.3)
Environmental Program & Management	\$77,013.7	\$78,811.3	\$77,204.5	(\$1,606.8)
Building and Facilities	\$2,308.5	\$4,179.5	\$2,594.2	(\$1,585.3)
State and Tribal Assistance Grants	\$33,997.8	\$31,913.1	\$32,113.1	\$200.00
Leaking Underground Storage Tanks	\$70,263.9	\$71,005.4	\$71,000.5	(\$4.9)
Oil Spill Response	\$14,701.7	\$15,289.4	\$15,500.6	\$211.2
Inspector General	\$879.3	\$1,069.1	\$1,082.2	\$13.1
Hazardous Substance Superfund	\$1,255,656.6	\$1,306,379.0	\$1,303,970. 4	(\$2,408.6)
Total Workyears	3,772.7	3,822.6	3,796.7	-25.9

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Congressionally Mandated Projects	\$3,509.4	\$0.0	\$0.0	\$0.0
Categorical Grant: Hazardous Waste Financial Assistance	\$31,017.3	\$31,913.1	\$32,113.1	\$200.0
Compliance Assistance and Centers	\$198.6	\$279.9	\$276.6	(\$3.3)
LUST / UST	\$12,650.6	\$10,581.0	\$10,499.6	(\$81.4)
Civil Enforcement	\$1,969.7	\$2,163.6	\$2,135.6	(\$28.0)
Homeland Security: Preparedness, Response, and Recovery	\$37,556.3	\$27,339.3	\$27,163.2	(\$176.1)
LUST Cooperative Agreements	\$55,798.7	\$58,399.1	\$58,450.0	\$50.9

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Congressionally Mandated Projects	\$3,509.4	\$0.0	\$0.0	\$0.0
Oil Spill: Prevention, Preparedness and Response	\$12,543.8	\$12,897.5	\$13,064.7	\$167.2
RCRA: Corrective Action	\$36,816.6	\$40,363.8	\$40,975.6	\$611.8
Superfund: Emergency Response and Removal	\$217,880.1	\$199,803.9	\$201,088.0	\$1,284.1
Superfund: Enforcement	\$158,487.3	\$155,307.5	\$155,537.2	\$229.7
Superfund: EPA Emergency Preparedness	\$17,926.8	\$10,130.1	\$10,091.4	(\$38.7)
Superfund: Federal Facilities	\$28,838.1	\$32,744.2	\$32,182.0	(\$562.2)
Superfund: Federal Facilities IAGs	\$6,749.0	\$10,022.6	\$10,044.4	\$21.8
Superfund: Remedial	\$656,387.4	\$725,751.1	\$719,249.8	(\$6,501.3)
Superfund: Support to Other Federal Agencies	\$10,178.8	\$10,676.0	\$10,676.0	\$0.0
Administrative Projects	\$166,319.4	\$180,274.1	\$179,918.4	(\$355.8)
TOTAL	\$1,454,827.9	\$1,508,646.8	\$1,503,465.6	(\$5,181.3)

FY 2005 REQUEST

Results to be Achieved under this Objective

EPA leads the country's activities to reduce the risks posed by releases of harmful substances and by contaminated land. The most effective approach to controlling these risks incorporates developing and implementing prevention measures, improving response capabilities, and maximizing the effectiveness of response and cleanup actions. This approach will help to ensure that human health and the environment are protected and that land is returned to beneficial use. To meet its objective to reduce and control the risks posed by accidental or intentional releases of harmful substances by improving our Nation's capability to prepare for and respond more effectively to these emergencies, EPA intends to achieve the following results in FY 2005:

- Improve the Agency's emergency preparedness by achieving and maintaining the capability to respond to simultaneous large-scale emergencies and by increasing response readiness by 10 percent from a baseline established by the end of 2003 using the core emergency response criteria.
- Respond to 350 hazardous substance releases and 300 oil spills.
- Minimize impacts of potential oil spills by inspecting or conducting exercises or drills at 6 percent of approximately 6,000 oil storage facilities required to have Facility Response Plans. (Between FY 1997 and FY 2002, 30 percent of these facilities were inspected).

To meet its objective to control the risks to human health and the environment at contaminated properties or sites through cleanup, stabilization, or other action, and to make land available for reuse, EPA intends to achieve the following results in FY 2005:

- Make 500 final site-assessment decisions under Superfund;
- Control all identified unacceptable human exposures from site contamination to at or below health-based levels for current land and/or groundwater use conditions at 10 of the Superfund human exposure sites and 225 of the high priority RCRA facilities;
- Control the migration of contaminated groundwater through engineered remedies or natural processes at 10 of the Superfund groundwater exposure sites and 203 high priority RCRA facilities;
- Select final remedies (cleanup targets) at 20 Superfund sites;
- By 2008, clean up and reduce the backlog of 136,000 leaking Underground Storage Tank (UST) sites by 50 percent;
- Complete construction of remedies at 40 Superfund sites; and
- Complete 21,000 cleanups of leaking underground storage tanks, and 45 cleanups of underground storage tanks in Indian country.

To track progress in meeting the strategic targets included in the FY 2003 EPA Strategic Plan, efforts are underway as appropriate to develop new measures, collect data and establish baselines necessary to set annual targets.

In the Superfund Remedial program, efficiency measures will be developed that move the program's performance management tools away from primarily addressing historical program performance outputs and toward addressing the program's efficiency in achieving its goals and objectives. The Superfund program's measure development efforts seek to identify and implement at least one (output or outcome) efficiency measure for the FY 2005 budget. The longer-term goal is to identify and implement by FY 2006 additional efficiency measures (both output and outcome) that can be used by both EPA management and the public to assess the Superfund Remedial Program's performance.

In addition to developing FY 2005 Corrective Action environmental indicator goals, the RCRA program has prepared a measurement development plan to re-assess baselines and strategic targets in support of EPA efforts to cleanup and reuse contaminated land that integrates aspects of the One Cleanup Program. Strategic targets under development include:

- Performing health- and environmentally- based site assessments at 100 percent of RCRA baseline facilities;
- Controlling all identified unacceptable human exposures from site contamination to at or below health-based levels for current land and/or groundwater use conditions at 95 percent of RCRA facilities;
- Controlling the migration of contaminated groundwater through engineered remedies or natural processes at 80 percent of RCRA facilities;
- Selecting final remedies (cleanup targets) at 30 percent of RCRA facilities;
- Completing construction of remedies at 20 percent of RCRA baseline facilities.

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 2005, EPA will continue to emphasize "enforcement first" by obtaining PRP commitments to conduct new remedial actions as its primary strategy for completing construction at non-Federal facility Superfund sites. 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 will focus on maximizing PRP participation in conducting or funding response actions while promoting fairness in the enforcement process; recovering costs from PRPs when EPA expends funds from the Superfund Trust Fund; and, negotiating agreements with Federal facilities for NPL site cleanup.

Superfund Remedial

The Superfund Remedial 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, the Superfund Remedial Program 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 National Priority List (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, or in the case of Federal facilities, sites are placed on the Federal Agency Hazardous Waste Compliance 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 to 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 state's governor before listing a site on the NPL.

For sites listed on the NPL, remedial work begins with site characterization and a feasibility study to review site conditions and evaluate strategies for cleanup, taking into consideration reasonably anticipated future land use. These actions form the foundation for remedy selection, which is documented in the record of decision. 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, states or Tribes may also perform remedial cleanup as fund-financed actions with either EPA, the state or Tribe leading the cleanup action.

As of January 6, 2004, EPA assessed over 45,300 sites, completed final cleanup plans at over 1,100 Superfund NPL sites, conducted over 7,900 removal cleanup actions at hazardous waste sites to reduce immediate threats to human health and the environment, and removed more than 33,400 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 percent of the 1,518 sites on the final NPL (final and deleted sites as of January 6, 2004). Of these 1,518 sites, 59 percent have cleanup construction completed (890 sites as of January 6, 2004). A total of 700 projects are ongoing at over 430 sites as of January 6, 2004.

Human Health and Environmental Risks: 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.

The Superfund program continues to address sites that pose an immediate or direct risk to human health and the environment. Response actions are underway at numerous Superfund sites where residential areas are impacted by hazardous wastes. The Tar Creek, OK site is a residential area contaminated with lead and other metals from lead and zinc mining. In calendar year 1997, approximately 25 percent of the children had elevated blood lead levels compared to a statewide average of 3 percent. Elevated blood lead levels of health concern in children refer to levels greater than or equal to 10 ug/dL. By calendar year 2000, children with elevated blood lead levels had been reduced by 50 percent, largely due to residential soil cleanup and the extensive health education activities.²³ Residential cleanup activities are continuing on this site.

The Oronogo/Duenwig Mining Belt, MO site (Jasper County site) is a former lead and zinc mining site. A 1991 childhood lead study performed by the Missouri State Health Department and ATSDR indicated that more than 14 percent of the children in the area had blood lead levels of health concern (greater than or equal to 10ug/dL).²⁴ A childhood lead study was performed again in 2001, which indicated that the number of children in the area with blood lead levels of health concern had dropped to 2 percent.²⁵ This 86 percent reduction in children with elevated levels of blood lead, as well as a 40 percent reduction in average blood levels of all children tested, is attributed to the environmental and educational intervention activities undertaken at the site and surrounding communities.

Response actions are underway or completed at other sites with lead contamination similar to Tar Creek and Oronogo/Duenwig including: Omaha Lead, NE, Herculaneum Lead Smelter, MO (where 28 percent of the children in the area have elevated blood lead levels of health concern) and Bunker Hill, ID.

The Superfund program has been instrumental in responding to reduce or eliminate human exposures to contaminants in residential areas. An example is the Grand Street Mercury, NJ site which was a former industrial building, contaminated with mercury, that was converted into apartments. Twenty of the 29 residents tested, five of whom were children, possessed levels of mercury in their urine that might cause subtle neurological changes and renal tubule (kidney) effects. Response activities included permanently relocating the residents and demolishing the building. Dissociating the residents from the site and implementing measures to prevent further off-site mercury migration have mitigated the risks to residents and minimized the risks to neighbors of the site. Eighty years of vermiculite ore mining has caused asbestos to spread throughout the town of Libby, MT, where 18 percent of the tested population have abnormalities of the lungs from the contamination (compared to 0.2-2.3 percent in the general population), asbestos-related deaths appear to be 40-80 times the state and national averages, and lung

²³ U.S. EPA, Region 6. "Tar Creek Site Summary." Washington, DC: EPA. Accessed: January 8, 2004. Available only on the Internet at: <http://www.epa.gov/earth/r6/6sf/pdf/tarcreek.pdf>

²⁴ Agency for Toxic Substances and Disease Registry (ATSDR). Jasper County, Missouri Superfund Site Lead and Cadmium Exposure Study (Final Report). Missouri Department of Health, Division of Environmental Health and Epidemiology, Bureau of Environmental Epidemiology, 1995.

²⁵ Missouri Department of Health and Agency for Toxic Substances and Disease Registry. "Jasper County, Missouri Superfund Site Childhood Follow-up Lead Exposure Study." Available only on the Internet at http://www.dhss.state.mo.us/PreventionAndWellness/Jasper_report.htm

cancers are 20-30 percent higher than expected. Response actions are ongoing to reduce asbestos exposure and ATSDR has determined that areas already remediated by EPA no longer pose apparent public hazards.²⁶ At the Vasquez Boulevard/Interstate 70 site in the northeast section of Denver, CO, test results show that some residential properties have high levels of arsenic and lead in soil. Approximately 650 properties sampled to date have arsenic levels in soil that might pose a public health hazard for preschool children who may be exposed through incidental intake of soil. EPA has also identified approximately 260 properties where the increased risk for cancer is unacceptable in adults who also lived there as children. EPA is continuing to clean up these properties and to identify other areas of concern.

At the Wellsbach, NJ site, exposure to radioactive materials is being eliminated through Superfund activities. Work is underway to reduce PCB exposure in Anniston, AL, where some residents have elevated PCB levels in their blood. These are just a few examples that demonstrate how the Superfund program has and continues to improve public health through response activities that reduce the public's exposure to hazardous pollutants.

Environmental Results: Environmental data gathered by EPA through September 30, 2003, shows that since the inception of the Superfund program, EPA has: 1) provided alternative drinking water supplies to nearly 613,000 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 967 million cubic yards of hazardous solid waste; and 4) addressed 375 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 2005, EPA will measure Superfund's progress (including that associated with the Superfund Federal Facilities Response program) in achieving environmental results through six key performance measures. These six measures include: (1) assessing the extent of contamination at sites, (2) controlling identified unacceptable human exposures from site contamination to levels that are at or below health-based levels for current land and/or groundwater use conditions, (3) controlling the migration of contaminated groundwater through engineered remedies or natural processes, (4) selecting final remedies (cleanup targets), (5) completing construction of the selected remedies, and, (6) making land ready for reuse. These measures highlight important milestones in achieving risk reduction; no single measure can itself adequately capture the environmental benefits derived from the entire Superfund program.

Two of Superfund's performance measures have been in place for some time. The Superfund Program has collected data on site assessment (measure 1) and construction completions (measure 5) for several years and will continue to do so in FY 2005. In 2002, the

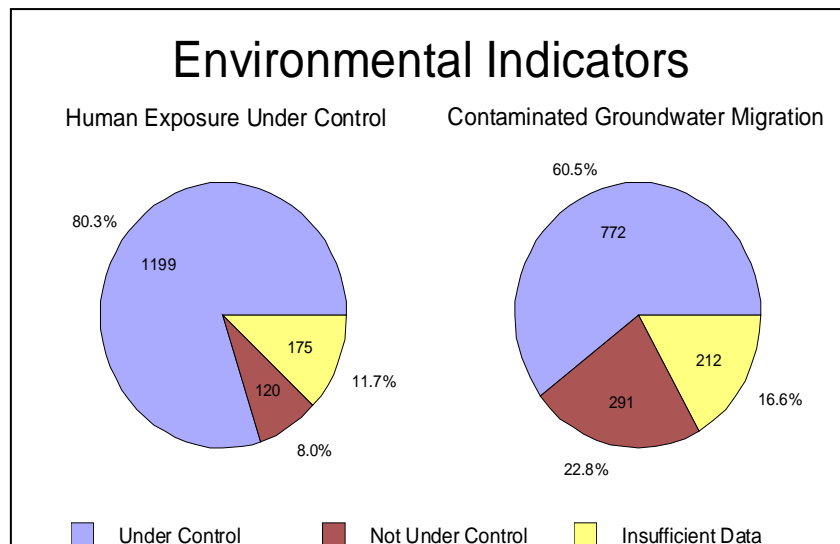
²⁶ Agency for Toxic Substances and Disease Registry. Public Health Assessment Libby Asbestos Site Libby, Lincoln County, Montana EPA Facility ID: MT0009083840. Atlanta, GA: US Department of Health and Human Services. May 15, 2003.

Superfund program began reporting on two additional measures: Human Exposure Under Control and Contaminated Groudwater Migration Under Control.

Beginning in FY 2004, the Superfund Remedial program will target and track Remedy Selections (measure 4) for the first time. In selecting final remedies, the Agency seeks to address all current and potential sources of contamination that threaten human health and the environment. Remedies are selected based on many criteria, including the protectiveness they offer, environmental media cleanup objectives, their short and long term effectiveness, implementation issues, and their acceptability to state and Tribal governments and the affected community. In selecting remedies, EPA and its partners also consider reasonably anticipated future land use. At the end of FY 2002, there was a universe of 1103 sites with final remedies selected. The Agency is currently evaluating this baseline and may adjust it downward in the future. The Superfund program expects to select final remedies at an additional 20 sites per year during FY 2004 and FY 2005.

The human exposure under control measure, (2) 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, 2003, 1,227 NPL sites (over 80 percent) had human exposures under control. The Superfund program expects to control human exposures at an additional 10 sites in FY 2005.

The groundwater migration under control measure, (3) 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, 2003, the migration of contaminated groundwater was under control at 826 NPL sites (over 60 percent) with contaminated groundwater. The Superfund program expects to control the migration of contaminated groundwater at an additional 10 sites in FY 2005.



The Superfund Remedial program is committed to returning underutilized land to productive reuse through its cleanup and other actions. In FY 2003, the Superfund program tasked a workgroup to develop performance measures to help quantify Agency accomplishment for this activity. The result is that in FY 2004, two new measures will be introduced: (1) sites with land ready for reuse, and (2) acres of land ready for reuse. Both measures will include acreage for the Superfund Federal Facilities Response program, which has been reporting on these same measures (under the Base Realignment and Closure (BRAC) program) since FY 1997. EPA will report accomplishments for these two measures for FY 2004 and FY 2005. EPA may set targets for these accomplishments in future years if analysis reveals that such targets would be meaningful.

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 2005:

- 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.

- Exposure Control measure – The Superfund program is in the process of developing an exposure control 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 increased exposure control of potentially exposed populations by FY 2008.

EPA is actively seeking input from stakeholders on these two approaches. Most notably, EPA has shared the draft methodology for the Ecological Risk Reduction measure with the National Advisory Council for Environmental Policy and Technology (NACEPT) Superfund Subcommittee and has received initial feedback. EPA also intends to seek stakeholder input on the draft methodology for the Exposure Control measure.

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 addition, the Superfund program is in the process of developing one or more efficiency measures by FY 2006.

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 January 6, 2004, Superfund has 1,518 sites on the NPL, of which over 620 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 to preserve and restore the Nation's land.

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: The Agency remains committed to completing construction at Superfund sites. The Program expects to achieve construction completion at an additional 40 sites during FY 2004, for a total of 926 since program inception. EPA expects construction completion accomplishments to remain at approximately 40 during FY 2005. Since the beginning of the program, the Agency has averaged 42 construction completions per year.²⁷

EPA monitors site progress and identifies potential critical points as sites move towards construction completion. The Agency will continue to regularly conduct detailed and comprehensive reviews of construction completion candidates funded by EPA to better follow site progress, identify potential problems, and sharpen projections of future construction completions.

Remedial Action Project Planning and Resource Allocation: Funding for EPA Superfund construction projects is critical to achieving risk reduction and construction completion and restoration of contaminated sites to productive reuse. The cost of EPA Superfund construction projects underway and those awaiting funding is rising due to the greater complexity of sites remaining to be cleaned up on the NPL. The program faces a large and growing backlog of projects that are ready to begin construction, while at the same time, is experiencing a growing challenge to fully fund several large and complex ongoing projects at their optimal pace. Additionally, as the EPA Superfund program has matured, the Agency is devoting more resources toward post construction activities, including long-term remedial actions and 5-year reviews.

²⁷ The Comprehensive Environmental Response, Compensation, and Liability System (CERCLIS) is the database used by the Agency to track, store, and report Superfund site information.

The Agency is taking the following steps to improve program effectiveness and efficiency:

- 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 and the environment are addressed, while balancing the programmatic need to complete construction at other sites;
- Maximize the involvement of responsible parties to conduct cleanups by finding them earlier and having them pay earlier;
- Maximize the use of resources already available to the Agency, including deobligations of prior year funds and reimbursements;
- Continue to implement administrative reforms which have already yielded \$1.7 billion in cost savings; and
- Continue to work with developers and partner with other Federal agencies (such as the US Army Corps of Engineers) to leverage the Program's resources.

EPA places a high priority on construction funding. Priorities for funding Superfund construction projects are established as follows: (1) the highest priority is given to funding emergencies which pose imminent threats to human health and the environment, (2) the next priority is ongoing construction projects that have already begun and which require additional resources, and (3) new construction projects. During FY 2003, funding was provided for more than 100 ongoing construction projects and long-term response actions, as well as 11 new start construction projects. However, funding was not available for 14 new construction projects that were reviewed for funding by the National Risk-based Priority Panel in FY 2003. In addition, 11 new start projects considered for funding by the panel encountered schedule delays, but will be ready to proceed during FY 2004. These 25 projects have a cumulative estimated cost exceeding \$225 million and will be reconsidered for funding in FY 2004.

In addition to the FY 2003 unfunded projects mentioned above, the Regions have identified a large number of new construction projects that will be reviewed for funding by the National Risk-based Priority Panel during FY 2004. In addition, the Program's construction funding needs are projected to continue to grow in FY 2005 as well. To address the Agency's growing construction project needs, the President has requested an increase of \$150 million for construction in FY 2004. This increase is also included in the base request for FY 2005. With the additional resources requested, EPA will initiate 10 to 15 new construction projects both in FY 2004 and in FY 2005. The exact number will depend on the selection of projects and their estimated cost.

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 NACEPT. The Subcommittee is working to render consensus-based recommendations on three key issues: (1) the role of the NPL, (2) complex and expensive sites, called megasites, and (3) measurement of program progress. The Subcommittee's final report is due by April 2004.

NPL Listing Policy. EPA is working 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. The NACEPT Subcommittee's final report is due by April 2004, and it will address a longer term future of Superfund.

Superfund Pre-SARA/First Generation Site Initiative. Closely tied to the PMR is the Superfund pre-SARA site initiative. As of the end of FY 2003, 185 non-Federal and Federal facility 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 Completion. 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, private PRPs, and other Federal agencies 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 and partial deletion.

As more NPL sites reach the milestone of construction completion, the focus of Superfund cleanups turns to ensuring that response actions provide for long-term protection of human health and the environment. In FY 2005, EPA will continue to implement a comprehensive Post Construction Completion Strategy for managing current and former NPL sites. EPA will work closely with states, Tribes, other Federal agencies, local partners and other stakeholders to implement the strategy.

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 continuing to work with other Federal agencies, states, Tribes, local governments and industry in the development of a 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 coordinate 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. Progress has been made on the development of a national registry and development of a prototype Superfund IC Tracking System, but a significant amount of work remains to place the system into production, populate and support implementation of the National IC Tracking Network.

Reuse. EPA is increasingly aware of the importance of fully exploring with its partners future land use opportunities at Superfund sites and BRAC facilities before selecting and implementing a cleanup remedy. In FY 2005, the Superfund reuse initiative will continue to facilitate the return of Superfund sites to productive use. As a result of these efforts, 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 nearly 300 Superfund sites that are in reuse or where reuse is planned. More than 60,000 acres are now in ecological or recreational use at these sites. Additionally, more than 30,000 jobs, representing approximately \$1.3 billion 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 helping communities plan for reuse of Superfund sites. EPA can then select, design, and implement cleanups that are protective of human health and the environment and that are also consistent with anticipated future uses. EPA has given communities at 71 pilot sites up to \$100,000 each in direct financial assistance and/or services. EPA will assess the impacts from these projects on the Superfund program and their potential to facilitate site reuse following cleanup.²⁸

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

²⁸ EPA, Office of Superfund Remediation and Technology Innovation, Superfund Redevelopment Successes. Accessed January 8, 2004. Available through the internet at: <http://www.epa.gov/superfund/programs/recycle>

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 or share responsibility for 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 development 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 Superfund cleanups. 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.

Meaningful stakeholder involvement is also central to EPA's Superfund Federal Facilities Response program. EPA's Federal Facilities Restoration and Reuse Office (FFRRO) collaborates with a unique set of state and Tribal associations, environmental groups, community advisory boards, labor organizations, and universities to ensure that social, cultural, and economic factors are considered when making cleanup and reuse decisions at Federal facilities. In FY 2005, FFRRO will continue to cultivate new relationships with other Federal facility stakeholders who have yet to be brought into the fold -- particularly those located in environmental justice communities.

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, DOD, and DOE will continue in FY 2005. An Intergovernmental Data Quality Task Force (IDQTF) has completed development of a *Uniform Federal Policy for Implementing Quality Systems* which has been approved by EPA, DOD and DOE. The Task Force is chaired by the Director of FFRRO. This policy will form the basis of a DOD-wide quality system and is under consideration as the basis of a DOE-wide system.

The IDQTF will issue a *Uniform Federal Policy for Quality Assurance Project Plans* following comment by 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. 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 on adopting specific procedures in the quality arena is a new and innovative approach. 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 Public Law 106-554.

Superfund: Support to Other Federal Agencies

Other Federal agencies contribute to the Superfund program by providing essential services in areas where EPA does not possess the necessary 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. For example, DOI provides response preparedness and management activities that support the National Response System (NRS); 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. FEMA provides technical and financial assistance to support the National Contingency Plan and the NRS through development of preparedness exercises and hazardous materials training.

Other Federal Agency Funding

Agency	FY 2004 Pres Bud	FY 2005 Request
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

Superfund: Federal Facilities

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. There are 177 Federal sites listed on the NPL (158 final, 13 deleted, 6 proposed), over 9,300 FUDS, and approximately 50 DOE Formerly Utilized Site Remedial Action Plan (FUSRAP) sites. There are currently 484 remedial investigations/feasibility studies, 72 remedial designs, and 218 remedial actions being addressed at NPL sites in the Superfund Federal Facilities Response program. Forty Federal sites have reached the construction completion stage, with one installation scheduled for completion in FY 2004 and seven more targeted for FY 2005. In many cases, Federal facilities cleanups face unique challenges due to the types of contamination present (e.g., radiation, military munitions), the size of the facility (e.g., DOE's Hanford site is over 500 square miles – the size of the State of Rhode Island), or the complexities of reuse related to environmental issues, as in the case of base closures.

FFRRO works with DOD, 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 Superfund Federal Facilities Response 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 and DOE to establish Restoration Advisory Boards (RABs) and Site-Specific Advisory Boards (SSABs), respectively.

Performance goals and measures for the Superfund Federal Facilities Response program are a component of the overall response cleanup measures. EPA's ability to meet its annual Superfund Remedial program targets (site assessment, remedy selection, construction completion, environmental indicators such as groundwater migration and human exposure under control, 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. For example, due to post-ROD dispute issues at DOD installations, over 70 remedy decision documents have been delayed of late. However, since December 2003, EPA has helped to rapidly reduce the backlog by 22 documents. 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 a corresponding increase in the level of EPA effort necessary to negotiate RODs and compliance agreements, and to oversee cleanups to ensure that human health and the environment are protected. DOE has begun to implement the recommendations of the DOE top-to-bottom review by requiring each site must prepare a risk-based end-state vision that will be concurred upon by the regulators. The deadline for preparation of the risk-based end states vision reports is January 2004. In addition, DOE has requested EPA's continued involvement in reviewing relevant policy and guidance documents. In FY 2005, EPA will continue working with DOD, DOE, and other Federal agencies to maximize construction completions and promote property reuse.

There continues to be increasing demand for EPA's involvement in DOD's Military Munitions Response and FUDS programs. The General Accounting Office (GAO) has estimated that millions of acres of training ranges in the United States and its territories are contaminated with military munitions.²⁹ By their nature, military munitions (unexploded ordnance (UXO), 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 injury. EPA is working on several initiatives with DOD, the states, and Federal Land Managers to help build DOD's Military Munitions Response program. These initiatives include: participation in the Munitions Response Committee to coordinate, identify, and synchronize munitions response efforts with DOD; review and comment on the Munitions Inventory and Munitions Response Prioritization Protocol; development of EPA guidelines to provide direction to those overseeing response actions involving UXO/ordnance and explosives (OE); publishing and updating a handbook on the management of OE that will offer information on the technical issues associated with the cleanup of military munitions; and, conducting UXO/OE training for all EPA regions and state, Tribal, and DOD staff involved in UXO/OE responses at Federal facilities.

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 that are, in some cases, now owned by the states, Tribes, cities, and other government entities, as

²⁹ "DoD Training Range Cleanup Cost Estimates Are Likely Understated," GAO-01-479, April 2001, p. 1

well as individuals or 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) implements 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 9,300 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, D. C. 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 an adjacent neighborhood where World War I chemical warfare agents were tested and disposed of in 1918.

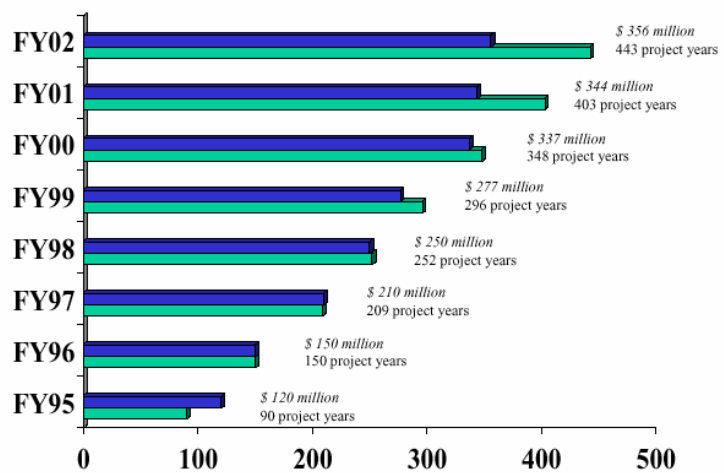
Federal Facility Interagency Agreements

CERCLA § 120 requires that all Federal facility sites on the NPL sign an IAG which provide enforceable schedules for the progression of the entire cleanup. The signing and implementation of an IAG ensures a protective cleanup at a timely pace. EPA will also 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.

Base Realignment and Closure (BRAC)

Since FY 1993, EPA’s Superfund 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 FY 1988 and FY 1995, 497 major Army, Navy, Air Force, and Defense Logistics Agency

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



military installations were slated either for realignment or closure. Of these 497 BRAC installations, 107 have been designated accelerated cleanup 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 was selected for realignment or closure. Accelerating the cleanup of 107 BRAC installations is intended to make parcels available for reuse as quickly as possible via the transfer of uncontaminated or remediated parcels, lease of contaminated parcels where cleanup is underway, or "early transfer" of contaminated property.

Since FY 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 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 accelerated cleanup program is the formation of base cleanup teams (BCTs) at those installations designated as such. The teams, which include environmental experts from EPA, DOD, and the 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 accelerated cleanups, EPA engages in public participation by working with DOD to establish 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 FY 2005. In FY 2005, the Agency will continue to focus on meeting the requirements of the existing BRAC bases and putting those facilities back into productive reuse. To date, EPA's participation in the BRAC program has afforded DOD a savings of \$372 million and 468 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.

Superfund Enforcement

The Superfund enforcement program is critical to the Agency's ability to clean up the vast majority of the nation's worst hazardous waste sites. The program pursues a policy of "enforcement first" to ensure that sites for which there are viable responsible parties are cleaned up by those parties. In FY 2005, EPA will continue to secure Potentially Responsible Parties (PRP) commitments to conduct new remedial actions, as its primary strategy for completing construction at non-Federal facility Superfund sites. 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.

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.

In FY 2005, 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 either take 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.

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 2005, 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.

EPA’s financial management community maintains a strong partnership with the Superfund program. The Office of the Chief Financial Officer (OCFO) recognizes and supports this continuing partnership by providing the full array of financial management support services necessary to pay Superfund bills and recoup cleanup and oversight costs for the trust fund.

OCFO manages Superfund budget formulation, justification, and execution as well as financial cost recovery. OCFO manages oversight billing for Superfund site cleanups (cost of overseeing the responsible party's cleanup activities) and refers oversight debts to the Department of Justice (DOJ) when they are not paid.

Superfund: Emergency Response and Removal

EPA plays a major role in reducing the risks that accidental and intentional releases of harmful substances and oil pose to human health and the environment. As the Federal on-scene coordinator (OSC) in the inland zone, EPA evaluates and responds to thousands of releases annually as part of the National Response System (NRS). The NRS is a multi-agency preparedness and response mechanism that includes the following key components: the National Response Center (NRC); the National Response Team (NRT), composed of 16 Federal agencies; 13 Regional Response Teams (RRTs); and Federal OSCs. These organizations work with state and local officials to develop and maintain contingency plans that will enable the Nation to respond effectively to hazardous substance and oil emergencies. When an incident occurs, these groups coordinate with the OSC in charge to ensure that all necessary resources, such as personnel and equipment, are available and that containment, cleanup, and disposal activities proceed quickly, efficiently, and effectively. As a result of NRS efforts, the Nation has successfully contained many major oil spills and releases of hazardous substances, minimizing the adverse impacts on human health and the environment.

Each year, EPA personnel assess, respond to, mitigate, and clean up thousands of releases, whether accidental, deliberate, or naturally occurring. These incidents range from small spills at chemical or oil facilities to national disasters, such as hurricanes and earthquakes, to terrorist events like the 2001 World Trade Center and anthrax attacks, to the 2003 Columbia shuttle tragedy. 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. Decisions to conduct removals are made based on protecting human health and the environment and minimizing risk from uncontrolled releases. The National Response System (NRS) is designed to have responsible parties respond to incidents when possible, and to have local and state response agencies respond when within their capabilities. However, for those incidents that are not properly addressed by the responsible party and are beyond the scope of responses typically managed by the local or state agencies, EPA will assist or lead the response. EPA traditionally responds to 350 incidents each year.

EPA will work to improve its ability to respond effectively to incidents that may involve harmful chemical, oil, biological, and radiological substances. As part of its strategy for improving effectiveness, the Agency will explore improvements in response readiness levels, including field and personal protection equipment and response training and exercises; review response data provided in the "after-action" reports prepared by EPA emergency responders following a release; and examine "lessons learned" reports to identify which activities work and

which need to be improved. Application of this information and other data will advance the Agency's state-of-the-art emergency response operations.

EPA's emergency preparedness, prevention, and response staff are vital to this work. We will continue to develop technical personnel in the field, ensuring their readiness and protecting their health and safety when responding to releases of dangerous materials. In addition, EPA will strengthen its information infrastructure by making information management decisions Agency-wide and by improving operations and the security, collection, and exchange of information.

Superfund: EPA Emergency Preparedness

Preparedness on a national level is essential to ensure that emergency responders are able to deal with multiple, large-scale emergencies, including those that may involve chemicals, oil, biological, or radiological substances. Over the next several years, EPA will enhance its core emergency response program to respond quickly and effectively to chemical, oil, biological, and radiological releases and will improve coordination mechanisms to enable response to simultaneous, large-scale national emergencies, including homeland security incidents. The agency will focus its efforts on Regional Response Teams (RRTs) and coordination among regions; health and safety issues, including provision of clothing that protects and identifies responders, training, and exercise; establishment of delegation and warrant authorities; and, response readiness, including equipment, transportation, and outreach. The criteria for excellence in the core emergency response program will ensure a high level of overall readiness throughout the Agency and improve its ability to support multi-regional responses after a baseline is established in FY 2003. EPA anticipates it will improve its readiness level by 10 percent annually.

In addition to enhancing our readiness capabilities, EPA will work to improve internal and external coordination and communication mechanisms. For example, as part of the National Incident Coordination Team, EPA will continue to improve its policies, plans, procedures, and decision-making processes for coordinating responses to national emergencies. Under the Continuity of Operations/Continuity of Government program, EPA will upgrade and test plans, facilities, training, and equipment to ensure that essential government business can continue during a catastrophic emergency. NRT capabilities are being expanded to coordinate interagency activities during large-scale responses. EPA will coordinate its activities with the Department of Homeland Security (DHS), Federal Emergency Management Administration (FEMA), Federal Bureau of Investigation (FBI), other Federal agencies, and state and local governments. EPA will also continue to clarify its roles and responsibilities to ensure that Agency security programs are consistent with the national homeland security strategy.

Under multiple authorities, including CERCLA, FWPCA, the Oil Pollution Act, and the National Contingency Plan (NCP), EPA supports a highly effective national emergency preparedness and response capability.

Through the National Response Team (NRT)/RRTs and the Federal Response Plan (FRP), the Federal government helps states and cities address major incidents that are beyond their capabilities. EPA chairs the 16 NRT agencies and co-chairs the 13 RRTs throughout the

U.S. which coordinates actions of all Federal partners to prevent, prepare for and respond to hazardous substance and petroleum emergencies, whether accidental or terrorist in origin.

Building on current efforts to enhance national emergency response management, NRT agencies will continue the development of the new National Incident Management System (NIMS) and National Response Plan (NRP). NRT agencies will improve notification and response procedures, develop anthrax response technical assistance documents, continue to implement and test incident command/unified command system (IC/UCS) across all levels of government and the private sector, and assist in the development of Regional Contingency Plans and Local Area Plans. Technical assistance, 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). In the science and technology area the NRT will continue to assist web-based responder training and innovative use of incident notification technologies.

Another important NRT priority is the U.S.-Panama Canal agreement which calls for the U.S. to provide assistance to the Panama Canal Authority when emergencies that exceed their capabilities. In FY 2005, EPA will work with the Canal Authority's response officials to improve their incident management skills, through training assistance and table top exercises involving incident notification and response management.

The FRP, under the direction of the DHS, provides for the delivery of Federal assistance to states to help them deal with the consequences of terrorist events as well as natural and other significant disasters. EPA has the lead responsibility for the plan's Emergency Support Function covering hazardous materials and inland petroleum releases. 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 NRT.

Under the NRP, EPA will participate, on the successor organization to the Catastrophic Disaster Response Group (CDRG) which will provide national level guidance and policy direction on response coordination and issues that arise from emergency support function activities.

In FY 2005, EPA will provide staff support to the DHS's emergency operations center during national disasters and emergencies. EPA will also continue to develop and participate in training courses on emergency support function responsibilities, deliver presentations on the NRP to national forums and participate in nation-wide exercises to test and improve the Federal government's preparedness and response system and its capabilities.

Compliance Assistance and Centers and Civil Enforcement

The EPA will continue to provide effective compliance and enforcement support Clean Water Act Section 311 (oil spill and hazardous substances) policy development, case

development and review. It will also provide support for field investigations and inspections for the Spills and Spill Control Countermeasure (SPCC) compliance program.

LUST/UST (LUST portion only)

In controlling the risks to human health and the environment by mitigating the impact of accidental or intentional releases and by cleaning up and restoring contaminated sites or properties to appropriate levels, the Agency will work with states, Tribes and Intertribal Consortia to leave the land better protected through a one cleanup program approach. The Leaking Underground Storage Tanks (LUST) program promotes rapid and effective responses to releases from Federally-regulated underground storage tanks (USTs) containing petroleum by enhancing state, local, and Tribal enforcement and response capability. To this end, by FY 2008, EPA intends to clean up and reduce the backlog of approximately 136,000 confirmed releases for which cleanups have not been completed by 50 percent. EPA will continue to work with the states to strive for approximately 18,000 – 23,000 cleanups completed each year, thus reducing the backlog.

The Agency's LUST program provides support for the oversight and cleanup of petroleum releases from USTs, using LUST funds where owners and operators are unknown, unwilling, or unable to take corrective actions themselves. States may also oversee and enforce responsible party cleanups and cost recover from responsible parties who are unwilling to pay for cleanups.

In FY 2005, EPA's LUST Program priorities continue to focus on accelerating cleanups; addressing contamination from oxygenates; and promoting the continued use, reuse (i.e., revitalization), and long-term management of LUST sites. EPA will continue working with state UST programs to accelerate the pace of cleanups by measuring and evaluating performance and with other cleanup programs to streamline the remediation process, and promoting innovative approaches to corrective action. EPA is helping to address groundwater and drinking water contamination from oxygenates by supporting information exchange, research, and field pilots that provide a better understanding of the nature, scope, and best remedial approaches to contamination from oxygenates. EPA will continue promoting the use and reuse of LUST sites by developing partnerships and incentives, sharing experiences and lessons learned, fostering the use of Brownfields grants for petroleum-contaminated sites, devising ways to prioritize sites for reuse, identifying how to improve the long-term management of LUST sites, and continuing to measure program performance. In FY 2005, EPA will continue to improve methods of tracking and analyzing LUST program performance, e.g., projecting cleanup goals, analyzing trends, looking at new and existing performance measures and their definitions, and developing diagnostic tools to help EPA and state managers improve strategies for expediting cleanups. EPA will continue working with states to improve performance reporting and tracking.

As part of the Agency's One Cleanup Program Initiative, EPA will continue to coordinate cleanup efforts among the Agency's solid waste remediation programs to ensure more consistent and effective cleanups, provide clear and more useful information about cleanups, and apply better performance measures to cleanup programs. In FY 2005, EPA will continue coordinating with Agency task forces on groundwater cleanup, site assessment decision-making, and long-

term site stewardship to support this Initiative. LUST program-specific projects include developing information about long-term site management and a strategy for evaluating the impact of vapor intrusion at LUST sites. Concerns about the use of fuel oxygenates (e.g., methyl-tertiary-butyl-ether, or MTBE) in gasoline further underscores EPA's and the states' programmatic emphasis for better oversight and quicker action to reduce the costs of cleaning up MTBE contamination, which can cost up to 100 percent 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.

EPA 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. To help state and EPA regulators respond to releases and sites in a proactive manner, EPA will continue to provide a LUST web-based training module that addresses topics such as basic hydrogeology, source control, sampling techniques, remediation technologies, and performance monitoring. The LUST module is one element of a national UST training effort initiated in FY 2003 by a state and EPA work group. In FY 2005, EPA will also identify and foster the implementation of innovative approaches, such as multi-site cleanup agreements with states and states' use of performance-based contracting to achieve LUST program objectives, and evaluations to optimize remediation at difficult LUST sites. UST owners and operators undertake nearly all cleanups under the supervision of state or local agencies.

The Agency has the primary responsibility for implementing the LUST program in Indian country. A portion of the LUST resources is used to implement the LUST program in Indian country, including but not limited to cleanup activities and enforcement. In FY 2005, EPA will continue to provide support in Indian Country to educate owners and operators about the requirements for addressing leaking USTs; oversee and conduct site assessments, site investigations, and remediation, in part, through a national LUST contract designed specifically for Indian Country; enforce against responsible parties; perform cleanup of soil and/or groundwater; provide alternate water supplies and cost recovery against UST owners and operators in Indian Country; provide technical expertise and assistance by utilizing in-house personnel, contractors and grants/cooperative agreements to Tribal entities using Public Law 105-276 and to non-state entities using RCRA 8001; conduct response activities in very limited circumstances; oversee responsible party lead cleanups in Indian Country; and, provide direction, support and assistance to Tribal governments as well as negotiate and monitor their cooperative agreements. The Agency estimates that cleaning up all known and yet-to-be-discovered releases in Indian Country will take several years.

LUST Cooperative Agreements

The LUST program promotes rapid and effective responses to releases from USTs containing petroleum by enhancing state, local and Tribal enforcement and response capability. Most of EPA's LUST appropriation is provided to 56 states and territories through cooperative agreements. These states have the authority to respond to respond to petroleum releases from USTs using LUST funds where owners and operators are unknown, unwilling, or unable to take corrective actions themselves. States may also oversee and enforce responsible party cleanups and cost recover from responsible parties who are unwilling to pay for cleanups. To this end, by

FY 2008, EPA intends to clean up and reduce the backlog of approximately 136,000 confirmed releases for which cleanups have not been completed by 50 percent. EPA will continue to work with the states to strive for approximately 18,000 – 23,000 cleanups completed each year, thus reducing the backlog.

As part of the FY 2005 budget cycle, the Office of Management and Budget (OMB) evaluated the updated LUST program analysis, originally conducted in FY 2004 using the Performance Assessment Rating Tool (PART). OMB gave the program a rating of “Results Not Demonstrated,” and indicated that the LUST program has a clear purpose but lacks adequate strategic planning and needs to set goals that are adequately ambitious and show clear human health or environmental outcomes. In response to these findings, EPA has undertaken new analyses to refine its targets and to test the link between the activities of the program, notably cleanups, and the impact on human health and environmental outcomes achieved.

RCRA: Corrective Action

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. Over 3,500 industrial facilities must undergo a cleanup under the RCRA program. Out of these facilities, the Agency has targeted over 1,700 facilities as high priority – where people or the environment is likely to be at significant current or 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 1,200 facilities achieving the Current Human Exposures Under Control environmental indicator goal and over 1,000 facilities achieving the Migration of Contaminated Groundwater Under Control environmental indicator goal.

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 controlling 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 2005.

Despite the progress made, challenges still face the program, including the extent and severity of the groundwater 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, ongoing work which began in FY 2002 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 address these issues.

In FY 2005, 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 work in partnership with states to finalize development of a Revitalization Work Plan. There are many important revitalization activities the Agency will undertake including: piloting an approach of clustering sites and issues; supporting RCRA facilities in the next round of Brownfields grants; participation in the development of institutional control tracking and a “sites in my community” data system; analysis of liability issues for municipalities and lenders; and, development of reports on acres made available for reuse as a result of cleanup.

In FY 2005, the Agency will devote special attention to Federal facilities being cleaned up under RCRA authorities. The Agency and the authorized states have worked with EPA’s 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 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.

Categorical Grant: Hazardous Waste Financial Assistance

The RCRA statute authorizes EPA to assist state governments in the development and implementation of an authorized hazardous waste management program for the purpose of controlling the generation, transportation, treatment, storage and disposal of hazardous wastes. The states (both those authorized for corrective action and those not authorized for corrective action through work sharing agreements with their regions) are the primary implementers of

corrective action, although regional staff are also the lead on a significant number of facilities undergoing corrective action. This account also provides funding for the direct implementation of the RCRA program by Region 7 and 10 for the states of Iowa and Alaska, respectively.

In FY 2005, the following are activities which will be accomplished using categorical grants:

- Assessments of RCRA facilities statutorily required to conduct CA and those subject to CA
- Investigations of RCRA facilities where CA has been imposed
- Implementation of stabilization measures
- Determination if Human Exposures and Groundwater Releases are “controlled”
- Selection of Final Remedy, Implementation of Final Remedy and if the objectives of Final Remedies have been met

OMB evaluated the RCRA Corrective Action Program using their Program Assessment Rating Tool (PART) during the FY 2005 budget cycle. OMB gave the program a rating of adequate, and indicated that the program is well designed in that it puts decision-making authority close to the actual cleanup activity while still ensuring a certain amount of oversight and consistency in protecting human health and the environment. In addition, the program has established acceptable long-term and annual outcome performance measures that tie directly to program activities and focus on protecting human health. However, OMB noted that the goals are no longer as ambitious as they were when first established and that new baselines and targets are needed for the measures to continue to be useful in tracking and guiding program performance.

In response to OMB’s comments, EPA is working with the states to establish a new baseline for performance measures and set appropriate new annual targets reflecting more ambitious long-term goals, in addition to efforts to develop land revitalization measures and efficiency measures.

Homeland Security: Preparedness, Response, and Recovery

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, the decontamination of anthrax in a U.S. Senate office building, and the response to the Columbia shuttle disaster 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. In FY 2005, EPA will continue to improve the capabilities of the regional response programs, On-Scene Coordinators (OSCs), and the Environmental Response Team (ERT) through improved state-of-the-art equipment and expertise, increased training and exercises, and additional field experience.

The Agency will continue efforts begun in FY 2004 to set up a National Decontamination Team with plans to become fully operational in FY 2005. Efforts will focus on improving the

Agency's specialized capabilities to address chemical and biological agents of concern, in both environmental and building contamination situations.

The Department of Homeland Security (DHS) is leading the development of a National Response Plan (NRP) in accordance with the Homeland Security Presidential Document - 5 (HSPD-5), "Management of Domestic Incidents," issued in February 2003. The NRP is structured based on the awareness, prevention, preparedness, response, and recovery aspects to these incidents. EPA and other member agencies of the NRT are participating in this NRP development, as well as the development of guidance for the new National Incident Management System (NIMS) that will implement the NRP. The NIMS workgroups are addressing: command and incident management; resource management; science and technology; system preparedness; and, communication and information management. This effort is attempting to meet the requirements of HSPD-5, especially in the context of September 11 and other terrorist threats, while ensuring that existing authorities and response support systems (such as the National Response System, the National Contingency Plan, and the Federal Response Plan) are currently available and incorporated as appropriate.

Oil Spill: Prevention and Preparedness

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 EPA-regulated oil storage facilities and the 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 spill prevention program. In addition to its 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, 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 oil program 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 agents that may be used during response to oil discharges.

All regulated oil storage facilities must prepare SPCC plans. These facilities range from commercial, manufacturing, or other enterprises using or storing oil to large tank farms; any 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) is regulated under the SPCC rule. EPA's field inspections and SPCC plan reviews have as their goal improved compliance with spill prevention requirements by the regulated community.

In addition, large oil storage facilities and refineries must prepare FRPs to identify and ensure the availability of resources to be prepared and ready to respond to a worst case discharge, establish communication, address security, identify an individual with authority to implement removal actions, and describe training and testing drills at the facility. In FY 2005, EPA will conduct inspections, and review/approve plans at any of the approximately 6,000 FRP facilities with a continued emphasis on emergency preparedness unannounced drills and exercises to ensure facilities and responders can effectively implement response plans, including responses to terrorist incidents.

EPA will continue the enhancement of the existing National Preparedness for Response Exercise Program (PREP), with emphasis on area and regional planning. EPA will continue to develop and modify area and regional contingency plans (ACPs, RCPs), in conjunction with area committees (state, local and Federal officials in a given geographic location). The ACPs detail the responsibilities of various parties in the event of a spill/release; describe unique geographical features, sensitive ecological resources, and drinking water intakes for the area covered, and identify available response equipment and its location. EPA conducts a small number of ACP exercises each year to evaluate and strengthen the plans.

FY 2005 CHANGE FROM FY 2004 REQUEST

EPM

- (+611,800) Internal decisions to centralize LAN funding and provide support to the Land Revitalization have resulted in an increase to the RCRA: Corrective Action program.

Superfund

- (- \$6,501,300) The decrease to the Superfund: Remedial program primarily reflects recent organizational changes. OSWER has consolidated response and removal responsibilities within the new Office of Emergency Prevention, Preparedness and Response (OEPPR). The decrease in funds for the Superfund Remedial program reflects the new focus and responsibilities of OSRTI.

- (+\$1,284,100) Adjustments in resources available to the Superfund: Emergency Response and Removal program reflect recent organizational changes within EPA in response to its new responsibilities in the area of homeland security.
- (-\$562,200) Adjustments in resources available to the Superfund: Federal Facilities program reflect recent organizational changes within EPA in response to its new responsibilities in the area of homeland security.
- (+ 6.0 FTE) FTE, previously allocated to the Base Realignment and Closure (BRAC) program, have been primarily redirected to meet additional EPA responsibilities under the Superfund EPA Emergency Preparedness program. Five of the redirected FTE will support efforts to ensure the readiness of EPA personnel, coordinate the National Response Team and Regional Response Team efforts, and work with other Federal agencies to respond effectively and consistently to nationally significant events. The other FTE will be devoted to Superfund Remedial program efforts.
- (-\$1,000,000), Reduces funds provided to the Department of Justice for CERCLA litigation support.
- (+\$340,200), Technical adjustment made from forensics support under goal 5, objective 4 to support the various programs under goals 3 and 5.
- (+\$1,700,000 SF) These Regional resources support the full array of financial management support services necessary to pay Superfund bills and recoup cleanup and oversight costs for the trust fund.
- (+\$1,791,000) The increase in non-payroll resources will be used to further efforts in FY 2005 to modernize major Agency financial systems. The modernization will provide decision-makers throughout the Agency with integrated budget cost and performance information and timely and reliable financial information and reports to improve accountability, decision-making and program management. FY 2005 efforts will focus on significant upgrades to the Agency's budget and planning systems, new system integration capabilities and continued progress in replacing EPA's integrated financial management system scheduled for implementation in FY 2007, and further developing desk-top access to key cost accounting and performance information.

ANNUAL PERFORMANCE GOALS AND MEASURES

Prepare for and Respond to Accidental and Intentional Releases

- | | |
|---------|--|
| In 2005 | Reduce and control the risks posed by accidental and intentional releases of harmful substances by improving our Nation's capability to prepare for and respond more effectively to these emergencies. |
| In 2004 | Reduce and control the risks posed by accidental and intentional releases of harmful substances by improving our Nation's capability to prepare for and respond more effectively to these emergencies. |

In 2003 EPA responded to or monitored 322 significant oil spills in the inland zone and Superfund accomplished 380 removal response actions.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Number of Superfund removal response actions initiated.	380	350	350	removals
Oil spills responded to or monitored by EPA.	322	300	300	spills
Number of inspections and exercises conducted at oil storage facilities that are required to have Facility Response Plans.			360	inspections/ exercises
Percentage of emergency response and homeland security readiness improvement.	82.3%	10%	10%	percent

Baseline: Through FY2003, Superfund had initiated approximately 7,900 removal response actions. EPA typically responds to or monitors 300 oil spill cleanups per year. In FY2003, EPA completed evaluations of core emergency response capabilities in each region, and the average score from these was 823 out of a possible 1,000 points so 82.3 percent is used as the baseline for improvements. Between FY 1997 and FY 2003, approximately 31 percent (or 1,862) of the nearly 6,000 oil storage facilities required to have Facility Response Plans were inspected.

Assess and Cleanup Contaminated Land

In 2005 Control the risks to human health and the environment at contaminated properties or sites through cleanup, stabilization, or other action, and make land available for reuse.

In 2004 Control the risks to human health and the environment at contaminated properties or sites through cleanup, stabilization, or other action, and make land available for reuse.

In 2003 Superfund made 917 final site assessment decisions, controlled human exposures at 28 sites and groundwater migration at 54 sites, and achieved 40 construction completions. The RCRA program controlled human exposures at 230 sites and groundwater migration at 175 sites. There were 18,518 LUST cleanups.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
Number of Superfund final site assessment decisions.	917	475	500	assessments
Number of Superfund construction completions.	40	40	40	completions
Number of Superfund hazardous waste sites with human exposures controlled.	28	10	10	sites
Number of Superfund hazardous waste sites with groundwater migration controlled.	54	10	10	sites
Number of final remedies (cleanup targets) selected at Superfund sites.		20	20	remedies
Number of leaking underground storage tank cleanups completed.	18,518	21,000	21,000	cleanups
Number of high priority RCRA facilities with human exposures to toxins controlled.	230	166	225	facilities

Performance Measures:	FY 2003	FY 2004	FY 2005	
	Actuals	Pres. Bud.	Pres. Bud.	
Number of high priority RCRA facilities with toxic releases to groundwater controlled.	175	129	203	facilities

Baseline: By the end of FY 2003, Superfund had initiated approximately 7,900 removal response actions, controlled human exposures at 82% (1,227 of 1,494) of eligible NPL sites and controlled groundwater migration at 65% (826 of 1,275) of eligible NPL sites, and completed construction at 58% (886) of the NPL sites. Of the 1,714 RCRA Corrective Action high priority facilities, 73% (1,246) have human exposures controlled, an increase from 1,018 facilities with human exposures controlled at the end of FY 2002; and 61% (1,049) have groundwater migration controlled, an increase from 877 facilities with groundwater migration controlled at the end of FY 2002. Furthermore, at the end of FY 2001 there were 814 facilities with human exposures controlled and 737 facilities groundwater migration controlled reflecting the strong EPA/state partnership in this program. At the end of FY 2003, 303,120 cleanups of confirmed releases from Federally-regulated leaking underground storage tanks were completed since 1987. At the end of FY 2002, there was a universe of 1,103 Superfund sites with final remedies selected. The Agency is currently evaluating this baseline and may adjust it downward in the future.

Superfund Cost Recovery

- In 2005 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 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 Ensured trust fund stewardship by getting PRPs to initiate or fund the work and recover costs from PRPs when EPA expends trust fund monies. Addressed 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.

Performance Measures:	FY 2003	FY 2004	FY 2005	
	Actuals	Pres. Bud.	Pres. Bud.	
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 addressed 100 percent 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 2005 Reach a settlement or take an enforcement action before the start of a remedial action at 90 percent of Superfund sites having a viable, liable responsible party other than the federal government.
- In 2004 Reach a settlement or take an enforcement action before the start of a remedial action at 90 percent of Superfund sites having a viable, liable responsible party other than the federal government.

In 2003 Maximized all aspects of PRP participation which included maintaining PRP work at 87% of the new remedial construction starts at non-Federal Facility Superfund, and emphasized fairness in the settlement process.

Performance Measures:	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	
PRPs conduct 70% of the work at new construction starts	87			Percent
Percentage of Superfund sites at which settlement or enforcement action taken before the start of RA.		90	90	Percent

Baseline: In FY 98 approximately 70% of new remedial work at NPL sites (excluding Federal facilities) was initiated by private parties. In FY2003, a settlement was reached or an enforcement action was taken with non-Federal PRPs before the start of the remedial action at approximately 90 percent of Superfund sites.

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measures:

- **Number of final Superfund 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 final remedies (cleanup targets) selected at Superfund sites.**
- **Number of Superfund construction completions.**
- **Number of Superfund removal response actions initiated.**

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: CERCLIS is an automated EPA system; headquarters and EPA's 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 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 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.

CERCLIS 3/WasteLAN operation and further development is taking place under the following administrative control quality assurance procedures: 1) OIRM Life Cycle Guidance; 2) OSRTI Quality Management Plan; 3) Agency platform, software and hardware standards (NTSD); 4) Quality Assurance Requirements in all contract vehicles under which CERCLIS 3/WasteLAN is being developed and maintained; and 5) Agency security procedures. In addition, specific controls are in place for system design, data conversion and data capture, and CERCLIS 3/WasteLAN outputs.

Data Quality Reviews: Two audits, one by the Office Inspector General (OIG) and the other by General 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/eroom.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 percent of the sites. Additional information on the *Status of Sites* may be obtained by visiting <http://www.gao.gov>. Another 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, and 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/eroom.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: Weaknesses 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 was made to better define the Headquarters and Regional roles and responsibilities for maintaining planning and accomplishment data in CERCLIS; 2) draft guidance from OCA (Other Cleanup Activity) subgroup, which outlines the conditions under which sites are taken back from states when states have the lead but are not performing and 3) Pre-CERCLIS Screening: A Data Entry Guide, which provides guidance to the regions for preventing entry of duplicate sites in CERCLIS. The development and implementation of a quality assurance process for CERCLIS data has begun. This process includes delineating quality assurance responsibilities in the program office and periodically selecting random samples of CERCLIS data points to check against 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 percent of the sites.

New/Improved Data or Systems: 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. Among other initiatives, this effort includes reviewing current and anticipated data needs. Items in CERCLIS that are no longer needed will be deleted, and new items identified will be added. Strict standards for quality will be enforced. During FY 2004, the CERCLIS database will be made Intranet accessible, and perhaps, Internet accessible, using CITRIX. This will make it easier to access the database and will simplify the SNAPSHOT process. This change will improve database reliability since there will no longer be 10 separate CERCLIS installations on servers maintained by regional IRM shops. 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. In 2005, the Agency will continue its efforts begun in 1999 to improve the Superfund program's technical information by increasing reliance upon CERCLIS support data systems, which incorporate more site remedy selection, risk, removal response, and community involvement information. 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 formulate 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.

References: References include OIG audit reports, *Superfund Construction Completion Reporting*, (No. E1SGF7_05_0102_8100030) and *Information Technology - Comprehensive FY 2005 Performance Measures Environmental Response, Compensation, and Liability Information System (CERCLIS) Data Quality*, (No. 2002-P-00016), <http://www.epa.gov/oigearth/eroom.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, the Annual Performance Report to Congress, and the Office of Superfund Remediation and Technology Innovation's Information Management Center's Quality Assurance Procedures for the Official Superfund Data Base, CERCLIS 3/WasteLAN.

FY 2005 Performance Measures

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

Performance Database: The Office of Underground Storage Tanks (OUST) does not maintain a national database; the states maintain their respective databases and/or spreadsheets.

Data Source: Designated state agencies submit semi-annual progress reports to the EPA's Regional offices.

Methods, Assumptions and Suitability: N/A

QA/QC Procedures: States submit their performance on an EPA-supplied form for review against national trends and historical data. Previously reported percentages and/or totals are compared to current values and states are notified of any discrepancies and/or anomalies.

Data Quality Review: EPA resolves any discrepancies and/or anomalies in the reported information through written explanations and/or justifications from the states and discussions.

Data Limitations: Percentages reported are sometimes based on estimates and extrapolations from sample data. The quality of the states' data depends on the completeness and accuracy of states' internal recordkeeping.

Error Estimate: Not calculated.

New/Improved Data or Systems: None.

References: FY 2003 Mid-Year Activity Report, June 19, 2003 (updated semi-annually)

FY 2005 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 are 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’s Regional offices 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.

Data Quality Review: GAO’s 1995 Report on EPAs 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 2005 Performance Measure:

- **Percentage of emergency response and homeland security readiness improvement.**

Performance Database: No specific database has been developed. Data from evaluations are tabulated and stored using standard software (WordPerfect, spreadsheets, etc.)

Data Source: Data are collected through detailed surveys and interviews of personnel and managers in each program office. The survey instrument was developed based upon Core Emergency Response (ER) elements, and has been approved by EPA Headquarters and Regional managers.

Methods, Assumptions and Suitability: The Core ER elements were developed over the last several years by the EPA Removal Program to identify and clarify what is needed to ensure an excellent emergency response program. The elements, definitions, and rationales were developed by staff and managers and have been presented to the Administrator and other high level Agency managers. Based on the Core ER standards, evaluation forms and criteria were established for EPA's Regional programs, the Environmental Response Team (ERT), and Headquarters. These evaluation criteria identify what data need to be collected, and how that data translate into an appropriate score for each Core ER element. The elements and evaluation criteria will be reviewed each year for relevance to ensure that the programs have the highest standards of excellence and that the measurement clearly reflects the level of readiness. The data are collected from each Regional office, ERT, and Headquarters using a systematic, objective process. Each evaluation team consists of managers and staff, from Headquarters and from another EPA Regional office, with some portion of the team involved in all reviews for

consistency and some portion varying to ensure independence and objectivity. For instance, a team evaluating Region A might include some or all of the following: a staff person from Headquarters who is participating in all reviews, a staff person from Headquarters who is very familiar with Region A activities, a manager from Headquarters, and a staff person and/or manager from Region B. One staff or group will be responsible for gathering and analyzing all the data to determine the overall score for each Regional office, ERT, and Headquarters, and for determining an overall National score.

QA/QC Procedures: See “Methods, Assumptions and Suitability”

Data Quality Review: The evaluation team will review the data (see Methods, Assumptions and Suitability) during the data collection and analysis process. Additional data review will be conducted after the data has been analyzed to ensure that the scores are consistent with the data and program information. There currently is no specific database that has been developed to collect, store, and manage the data.

Data Limitations: One key limitation of the data is the lack of a dedicated database system to collect and manage the data. Standard software packages (word processing, spreadsheets) are used to develop the evaluation criteria, collect the data, and develop the accompanying readiness scores.

Error Estimate: It is likely that the error estimate for this measure will be small for the following reasons: the standards and evaluation criteria have been developed and reviewed extensively by Headquarters and EPA’s Regional managers and staff; the data will be collected by a combination of managers and staff to provide consistency across all reviews plus an important element of objectivity in each review; the scores will be developed by a team looking across all ten Regions, ERT, and Headquarters; and only twelve sets of data will be collected, allowing for easier cross-checking and ensuring better consistency of data analysis and identification of data quality gaps.

New/Improved Data or Systems: There are no current plans to develop a dedicated system to manage the data.

References: FY 2003 Core Emergency Response Report, based on Regional and Headquarters evaluations (for internal EPA use only).

FY 2005 Performance Measures:

- **Number of inspections and exercises conducted at oil storage facilities required to have Facility Response Plans**
- **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. Historically, oil program performance has been reported in CERCLIS; a new, more streamlined reporting system is being developed in 2004 to store oil spill

prevention, emergency preparedness and response information. Information included in the new database will be similar to CERCLIS, but definitions and activities pertaining to oil will be included to support oil spill program needs for FY 2004 and beyond.

Data Source: Automated EPA system; Headquarters and Regional offices enter data (Currently CERCLIS, has a new system pending).

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

QA/QC Procedures: N/A

Data Quality Reviews: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: The Superfund/Oil Implementation Manual, 1987. This is being revised as part of the development of the new database.

FY 2005 Performance Measures:

- **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 support 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: NA

New/Improved Data or Systems: None

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

FY 2005 Performance Measures:

- **Reach a settlement or take an enforcement action before the start of a remedial action at 90 percent of Superfund sites having viable, liable responsible parties other than the Federal government.**

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 are collected on a fiscal year basis only. Enforcement reports are run at the end of the fiscal year, and the data that support 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: NA

New/Improved Data or Systems: None

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

EFFICIENCY MEASURES\MEASUREMENT DEVELOPMENT PLANS

Site-Specific Efficiency Measure Development Plan for Superfund

The Superfund program is following a written efficiency measure development plan. The proposed measures are percentage of total Superfund appropriated resources which are obligated site-specifically and other efficiency measures. The milestone for FY 2005 is to complete methodology and data collection procedures. It should be noted that the site-specific obligation measure is currently one of many being considered by a Superfund workgroup designated to develop Superfund efficiency measures. The proposed measure has not been rigorously analyzed nor reviewed by the group to determine whether it is appropriate or feasible for the program to implement. Development of this measure is referenced in the Program Assessment Rating Tool (PART) summary in the Special Analysis section.

Other Measure Development Plans

The Superfund program is pursuing a measure development plan for (1) sites with land ready for reuse, and (2) acres of land ready for reuse. In FY 2005, the program plans to report a second year of annual accomplishments for reuse performance measures. In addition, the program plans to initiate a draft feasibility analysis of reuse performance data collected over two years to determine if setting a target is feasible, and to make recommendations for further action. Fully implementing reuse measures is contingent on the feasibility analysis, which may reveal that

setting targets for reuse performance measures could be counterproductive to other Superfund program objectives. Development of this measure is referenced in the Program Assessment Rating Tool (PART) summary in the Special Analysis section.

Another measure development plan is in place for an expansion of the current Human Exposure Control measure, covering National Priority List sites in six exposure categories. In FY 2005, the Superfund program plans to report the first year of accomplishments for an expanded Human Exposure Control measure. Fully implementing this measure is contingent on a feasibility analysis, which may reveal that setting targets for this performance measure could be counterproductive to other Superfund program objectives. Development of this measure is referenced in the Program Assessment Rating Tool (PART) summary in the Special Analysis section.

COORDINATION WITH OTHER AGENCIES

Superfund Remedial Program

The Superfund Remedial 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, the actual cleanup and 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; 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 U. S. Army Corp of Engineers (USACE), states, and Tribes in the identification and cleanup of approximately 9,300 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.

Resource Conservation and Recovery Act

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 two additional states to gain authorization in the next year. 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.

Leaking Underground Storage Tanks

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.

Emergency Preparedness and Response:

The focal point for our Federal preparedness efforts is EPA's role in the National Response System (NRS), 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 interagency committees and workgroups. Federal Emergency Management Agency (FEMA) provides technical and financial assistance to support the National Contingency Plan and the NRS through development of preparedness exercises and hazardous materials training.

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 (USCG), FEMA, Department of the Interior, Department of Transportation, Department of Energy, and other Federal agencies and states, as well as with local government authorities to develop Area Contingency Plans. The Department of Justice also provides assistance to agencies with judicial referrals when enforcement of violations becomes necessary. EPA and the USCG work in coordination with other Federal authorities to implement the National Preparedness for Response program.

STATUTORY AUTHORITIES

Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. (1970), and Reorganization Plan #3 of 1970

Clean Water Act

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

Community Environmental Response Facilitation Act (CERFA)

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)

Departments of Veterans Affairs, Housing and Urban Development, and Independent Agencies Appropriations Act of 1999, Public Law 105-276, (112 Stat. 2461, 2499; 42 U.S.C. 6908a).

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

National Environmental Policy Act (NEPA)

Oil Pollution Act 33 U.S.C.A.

Pollution Prevention Act (PPA) (42 U.S.C. 13101-13109)

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)

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

Uranium Mill Tailings Radiation Land Withdrawal Act of 1978

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

Executive Order 12580 of January 1987, Superfund I

Environmental Protection Agency

FY 2005 Annual Performance Plan and Congressional Justification

Land Preservation and Restoration

OBJECTIVE: Enhance Science and Research

Through 2008, provide and apply sound science for protecting and restoring land by conducting leading-edge research and developing a better understanding and characterization of environmental outcomes under Goal 3.

Resource Summary (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Enhance Science and Research	\$46,531.6	\$59,836.6	\$57,555.6	(\$2,280.9)
Environmental Program & Management	\$3,117.4	\$3,026.1	\$2,983.2	(\$42.9)
Hazardous Substance Superfund	\$25,144.1	\$43,883.3	\$42,840.8	(\$1,042.5)
Leaking Underground Storage Tanks	\$682.4	\$730.6	\$736.7	\$6.1
Oil Spill Response	\$881.0	\$919.4	\$924.4	\$5.0
Science & Technology	\$15,798.6	\$10,374.9	\$9,112.3	(\$1,262.6)
Buildings and Facilities	\$812.0	\$823.0	\$886.9	\$63.9
Inspector General	\$96.1	\$79.1	\$71.3	(\$7.7)
Total Workyears	184.8	181.4	186.4	5.0

Program Project (Dollars in Thousands)

	FY 2003 Actuals	FY 2004 Pres. Bud.	FY 2005 Pres. Bud.	FY 2005 Req. v. FY 2004 Pres Bud
Congressionally Mandated Projects	\$5,963.3	\$0.0	\$0.0	\$0.0
Superfund: Remedial	\$0.0	\$6,291.5	\$6,234.0	(\$57.5)
Research: Land Protection and Restoration	\$25,122.8	\$36,568.5	\$33,059.3	(\$3,509.2)
Research: SITE Program	\$4,781.1	\$6,941.1	\$6,927.7	(\$13.4)
Administrative Projects	\$10,664.4	\$10,035.5	\$11,334.6	\$1,299.2
TOTAL	\$46,531.6	\$59,836.6	\$57,555.6	(\$2,280.9)

FY 2005 REQUEST

Results to be Achieved under this Objective

EPA's Land Protection and Restoration research and science programs are committed to conducting leading-edge research to provide a foundation for preserving land quality and

remediating contaminated land. These efforts will result in documented methods, models, assessments, and risk management options for program and regional offices, facilitating their accurate evaluation of effects on human health and the environment, understanding of potential exposure, and implementation of effective remediation options.

As of 2001, there were approximately 1200 Superfund sites on the National Priorities List (NPL). In addition, it is estimated that there are more than 5,000 RCRA corrective action sites, and 422,573 leaking underground storage tanks³⁰. The vast majority of these sites are contaminating groundwater and the public runs the risk of being exposed to hazardous materials that are associated with these sites. The number, diversity, and complexity of contaminated sites warrant an ongoing research program aimed at improving EPA's ability to characterize, assess and remediate contamination efficiently so that land may be returned to productive use without unacceptable risk to communities (Criterion: Relevance). Cost estimates for cleaning up all of these sites are over \$100 billion³¹; scientific and technological advances offer the best opportunity of containing these costs.

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. This supports the Agency's need for research to build a strong scientific foundation for regulatory reforms and, thereby, supports the Agency's mission to protect human health and the environment (Criterion: Relevance).

EPA's responsibility is to preserve and restore the Nation's land resources using the most effective waste management and remediation methods available. The Agency's research program is helping to achieve this goal by accelerating scientifically defensible and cost-effective characterization and clean-up of contaminated sites. The Agency has developed Multi-Year Plans for both Contaminated Sites³² and Hazardous Waste³³ research, with input from across the Agency, to ensure that the research conducted is relevant and addresses Agency-wide goals and priorities. The externally peer reviewed Waste Research Strategy³⁴ was released in 1999 to provide a clear rationale for selection and prioritization of waste research activities (Criterion: Relevance). The vast majority of this work is funded through competitively awarded support contracts, containing the requisite quality assurance plans and standard operating procedures (Criterion: Quality).

³⁰ U.S. Environmental Protection Agency. *Superfund Accomplishment Figures, Summary Fiscal Year (FY) 2003*. Accessed January 14, 2004. Available only on the internet at: <http://www.epa.gov/superfund/action/process/numbers.htm>

³¹ U.S. Environmental Protection Agency. *Cleaning up the Nation's Waste Sites: Markets and Technology Trends*. (EPA/542/R-96/005). Washington D.C.: Government Printing Office. (1997).

³² U.S. EPA, Office of Research and Development. *Contaminated Sites Multi-Year Plan*. Washington D.C.: EPA. Accessed January 14, 2004. Available only on the internet at: www.epa.gov/osp/myop

³³ U.S. EPA, Office of Research and Development. *Hazardous Waste Multi-Year Plan*. Washington D.C.: EPA. Accessed January 14, 2004. Available only on the internet at: www.epa.gov/osp/myop

³⁴ U.S. EPA, Office of Research and Development. *Waste Research Strategy*. (EPA/600/R-98/154). Washington DC: Government Printing Office. (1999)

Research: Land Protection and Restoration

Contaminated Sediments

Contaminated sediments are soils, sands, and organic matter that accumulate on the bottom of a water body and contain toxic or hazardous materials. Research in the area of contaminated sediments is working toward improving the range and scientific foundation for remedy selection options by enhancing risk characterization, site characterization and understanding of different remedial options (Criterion: Relevance).

Contaminated sediments are present at many large and controversial sites where risks are often disputed and costly remedies can take years to demonstrate meaningful results, making the issue a high research priority for the Agency as well as the public (Criterion: Relevance). In order to advance clean-up of these sites and thereby reduce risk of exposure, research focuses on three main themes: addressing questions in characterizing sites and deriving more certain human and ecological risk assessments; addressing specific gaps in our understanding of human exposure; and expanding the number of remedial alternatives with documented performance.

In FY 2005, research will continue to focus on improving our ability to characterize accurately the risks posed by contaminated sediments. EPA will also continue to develop remediation alternatives and evaluate their short- and long-term performance, as well as test several remedies to identify approaches that have potential cost or performance advantages.

Groundwater (including LUST)

Dense non-aqueous phase liquids (DNAPLs) are chlorinated solvents that were used in a wide range of manufacturing industries. Poor storage, disposal, and transport of these toxic chemicals have led to widespread contamination. In FY 2005, research will continue on the high priority, complex problem of determining DNAPL location and concentration in groundwater. EPA is developing and evaluating several non- or minimally-intrusive geophysical techniques, yielding a greater ability to make sound waste management decisions. Groundwater remediation research is focusing on an approach for DNAPL site clean-up, including combining multiple treatment technologies to move toward successful remediation. Research on the use of thermal treatment and flushing processes to address DNAPL source zones will also continue.

EPA will conduct field studies on monitored natural attenuation (MNA) of mobile metals. Monitored natural attenuation offers an alternative to more conventional clean-up methods at lower cost and with less intrusion to the surrounding environment. Studies on the application of permeable reactive barriers (PRBs) to inorganic contaminants such as arsenic and mercury will also continue. PRBs are an alternative approach for remediating groundwater contamination that combines subsurface fluid flow management with a passive chemical treatment zone. Although this research area is relatively young, PRB's are beginning to be selected for Superfund sites based on documented performance of the systems³⁵

³⁵ U.S. EPA, Office of Research and Development. *Capstone Report on the Application, Monitoring, and Performance of Permeable Reactive Barriers for Ground-Water Remediation*. (EPA/600/R-03/045) Washington D.C.: U.S. Government Printing Office. (2003).

Leaking underground storage tanks (LUST) corrective action research will continue to address assessment and clean-up processes for fuels and fuel oxygenates, such as methyl tertiary butyl ether (MTBE). Assessment work will focus on the development of transport models that can be used by state project managers. The first generation of these web-based models are already receiving over 10,000 hits per month (Criteria: Relevance and Performance). Remediation research will address multiple approaches applicable to spilled fuels, with and without oxygenates like MTBE and ethanol. These approaches include treatment and containment methods that could be applied to existing spills or engineered as a safety feature of new storage tank placements. One remediation device is a bioreactor, which uses microbiological processes to transform and stabilize organic wastes. This technology has been developed for use in MTBE removal in water sources. When proven in field tests, this low cost, effective unit has the potential to provide an extra measure of safety to public and private water supplies.

Soils/Land Research

EPA is developing analytical methods that lower detection limits, improve accuracy, and decrease screening costs in soils/land research. In FY 2005, research will focus on persistent organic toxins, and efforts will be completed on sampling methods for volatile organic compounds (VOCs) in soils.

EPA is also evaluating the effectiveness of current containment systems and developing new systems using innovative materials and methods. Research areas include caps, covers, and vertical barriers for the transition zone between the land surface and the water table; fixed barriers; remediation methods for contaminated plumes and infiltration control using plants; and soil contaminant immobilization. In FY 2005 research will focus on the stability of newer cap materials and on alternative cover system assessment.

Multimedia Research (Including Risk Assessment Research and Oil Spills Research)

Multimedia research focuses on: 1) assessing, predicting, and communicating risks to the environment; and 2) developing testing protocols, risk management strategies, and identifying fate and effects of oil spills.

In FY 2005, risk assessment research will continue to focus on developing methodologies and factors that enable ecological risk assessors to estimate the amount of soil-borne contamination that will be biologically “available” to wildlife.

Oil spills research has three areas of emphasis: test protocol development, fate and transport modeling, and remediation. In FY 2005, EPA will complete a set of protocols needed to test spill response products, and work will continue on models that help describe and track the spreading of oil spills. Remediation research will continue on physical, chemical, and biological risk management methods for petroleum and non-petroleum oils spilled in freshwater and marine environments.

Waste Management

A number of significant technical problems remain related to waste management, including arsenic treatment, treatment of residual disposal, use of landfill bioreactors to manage municipal solid waste, and combustion. Certain hazardous waste disposal techniques must be reevaluated and improved to ensure releases are minimized. The ability to predict waste releases depends on the ability of leaching protocols to reflect accurately 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 potentially dangerous emissions. Landfill bioreactors have potential to provide alternative energy in the form of landfill gas while increasing the nation's landfill capacity. In FY 2005, 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, efforts will continue on hard-to-treat wastes and focus on the characterization and treatment of arsenic-bearing residuals. Leaching studies will continue on arsenic-bearing wastes, mine process wastes, and municipal solid wastes, including those in bioreactors.

Emissions from combustion facilities remain a public concern and a number of uncertainties exist, including the cumulative impact of continuous emissions from multiple combustion facilities. In FY 2005, EPA will conduct further research on continuous emissions monitors will continue with a focus on dioxins and other products of incomplete combustion (PICs), supporting the Agency's goal of reducing dioxin and furan emissions from waste combustors.

Multimedia Decision-Making

In FY 2005, the Agency will work to advance the multimedia modeling methodologies that support core and emerging RCRA program needs. In support of EPA's Resource Conservation Challenge, a major national effort to reduce waste by promoting the use of recycled products to conserve natural resources, EPA will develop multimedia science approaches and risk assessment procedures for evaluating potential contaminant releases resulting from the beneficial reuse of waste-derived products, as well as methods for electronic waste recycling. This research effort will have broad applicability and benefit to other programs' multimedia risk assessments. EPA works with other Federal entities through a multi-agency Memorandum of Understanding (MOU), the goal of which is to enhance coordination in the development of reliable risk assessment methods and technologies.

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 regarding ways contaminants may migrate from groundwater to surface water and from groundwater to indoor

air. In FY 2005, the Agency will continue providing support for evaluation of these pathways as well as on the fate and transport of contaminants through the groundwater/surface water interface. In addition, work on vapor intrusion modeling will continue.

Technical Support

Technical support activities associated with contaminated sites and RCRA Corrective Action, conducted through support centers, include site-specific technical support, responses to scientific questions (e.g., human health and environmental toxicity), and technology transfer documents to EPA program offices and other stakeholders.

The Hazardous Substance Technical Liaison (HSTL) Program provides and facilitates technical support to EPA Regions in waste-related areas, including the transfer of scientific and engineering products- between research laboratories and the Regions. The program also provides direct assistance in a variety of technical areas.

Research: SITE (Superfund Innovative Technology Evaluation) Program

The goal of the SITE³⁶ 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 2005, this program will continue to conduct demonstrations of innovative remediation, monitoring, and measurement approaches, with the goal of increasing the application of more effective and less costly options that already exist. Through a competitive solicitation process, EPA selects technologies that address high priority remediation problems identified by the Agency and regions (Criterion: Quality). Since the inception of the SITE program in 1986, clean-up of contaminated sites through the use of innovative technologies has resulted in an estimated net cost savings of \$2.4 billion. This averages to a savings of 72 percent per site³⁷ (Criteria: Relevance and Performance).

Superfund: Remedial

EPA's Office of Superfund Remediation and Technology Innovation (OSRTI) is committed to using sound science and technological advances in its programs to preserve land and remediate contaminated land. Modernization of analytical tools, remediation technologies and strategies to address contaminated sites can lead to more effective efforts to preserve and remediate land. This goal, to integrate science advances into OSRTI's programs, recognizes that many of these advances may come from research and technology applications from EPA and elsewhere.

EPA will track the state of the practice for analytical methods and remediation technologies. The Agency will work in partnership with academics, other Federal agencies and

³⁶ For more information about EPA's SITE program, see <http://www.epa.gov/ORD/SITE/>

³⁷ U.S. EPA, Office of Research and Development. *The Superfund Innovative Technology Evaluation Program: Annual Report to Congress FY 2001*. (EPA/540/R-03/502). Washington DC: Government Printing Office. (2003).

industry to identify and deploy promising technologies and strategies. The program will document successful technology applications, encourage field trials of emerging technologies and strategies, provide field technical assistance for new approaches and deliver training to EPA and state personnel to keep them abreast of emerging innovations. EPA will also explore promising optimization techniques to improve EPA's remedies and their associated monitoring systems.

FY 2005 CHANGE FROM FY 2004

S&T

- (-\$1,000,000) This decrease represents a shift from research to enhance the Agency's knowledge of interactions that occur at the groundwater/surface water (gw/sw) interface, to the Science to Achieve Results (STAR) Fellowships program in Goal 4.
- (-\$226,100) These resources represent savings that will result from consolidation of many information technology (IT) services, including call center and service desk, server management, and hardware and software acquisition, and IT equipment standardization. This will result in enhanced security and uniform maintenance requirements. Since these resources represent an efficiency savings, there is no negative programmatic impact.

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

Superfund

- (-\$2,250,000) This reduction represents a significant decrease in funding for the Hazardous Substance Research Centers (HSRCs). These centers conducted research that focused on different aspects of hazardous substance management.

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

ANNUAL PERFORMANCE GOALS AND MEASURES

Research

Scientifically Defensible Decisions for Site Clean

In 2005 Complete at least four SITE demonstrations, with emphasis on NAPLs and sediments, in order to, by 2010, develop or evaluate 40 scientific tools, technologies, methods, and models, and provide technical support that enable practitioners to 1) characterize the nature and extent of multimedia contamination; 2) assess, predict, and communicate risks to human health and the environment; 3) employ improved remediation options; and 4) respond to oil spills effectively.

- 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 Delivered state-of-the-science report 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 to ensure cost-effective and technically sound site clean-up.

Performance Measures:	FY 2003 Actuals	FY 2003 Actuals	FY 2003 Actuals	
Complete draft of the FY 2002 Annual SITE Report to Congress.	1			draft report
Reports on performance data for conventional sediment remedies for three sites.		3		reports
SITE demonstrations completed			4	demonstrations

Baseline: This APG will contribute to an array of assessment and remediation options targeted to addressing situations where uncertainty remains high, technology performance is lacking, or where existing options are cost- or time intensive. Through FY 2005, non-aqueous phase liquids (NAPLs) and contaminated sediments will be of special interest because of the cost and complexity of assessing and remediating these sites, as well as the risks they pose to public health. EPA estimates that approximately 20% of National Priorities List (NPL) sites have contaminated sediments with risk from a number of toxic substances (<http://www.epa.gov/superfund/resources/sediment/index.htm>). Available remedies are unproven, expensive to implement, or both. The SITE program evaluates tools, technologies, and approaches for remediation, measurement, and monitoring. The innovative approaches that are evaluated are largely developed in the private sector. The purpose of the program is to provide an independent assessment of performance, so that site decision-makers can gain confidence in selecting an innovative approach. Since the inception of the SITE program in 1986, clean-up of contaminated sites through the use of innovative technologies has resulted in an estimated net cost savings of \$2.4 billion (<http://www.epa.gov/ORD/SITE/congress/540R03502/540R03502.htm>). Beginning in FY 2005, regular evaluations by independent and external panels will provide reviews of EPA research programs' relevance, quality, and successful performance to date, in accordance with OMB's Investment Criteria for Research and Development. Reviewers will also qualitatively determine whether EPA has been successful in meeting its annual and long-term commitments for research. Recommendations and results from these reviews will improve the design and management of EPA research programs and help to measure their progress under the Government Performance and Results Act (GPRA).

VERIFICATION AND VALIDATION OF PERFORMANCE MEASURES

FY 2005 Performance Measure:

SITE demonstrations completed

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: N/A

Data Limitations: N/A

Error Estimate: N/A

New/Improved Data or Systems: N/A

References: N/A

COORDINATION WITH OTHER AGENCIES

EPA coordinates 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 coordinated research efforts include the unique controlled-spill field research facility 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 the movement of spilled solvents 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), which manages a large basic research program focusing on Superfund issues, to advance fundamental Superfund research. 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 will continue to work 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.

EPA developed an MOU with several other agencies (DOE, DoD, Nuclear Regulatory Commission, Department of the Interior - USGS, NOAA, and the Department of Agriculture) for multimedia modeling 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 2005. 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.

STATUTORY AUTHORITIES

Brownfields Revitalization and Environmental Restoration Act
Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA)
Hazardous and Solid Waste Amendments (HSWA)
Oil Pollution Act (OPA)
Resource Conservation and Recovery Act (RCRA)
Solid Waste Disposal Act (SWDA)
Superfund Amendments and Reauthorization Act

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