Strategic Goal 3: Land Preservation *and* Restoration

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

Overview of Goal 3

Under this goal, EPA works to ensure proper management of hazardous and solid wastes; promote recycling, waste minimization, and energy recovery; assess and clean up contaminated sites; revitalize contaminated land and restore it to beneficial use; and bolster homeland security. The Agency works closely with its state, tribal, and local government partners, as well as with many stakeholders—nongovernmental organizations, industry associations, Federal Advisory Committee Act groups, and others—to implement and oversee these efforts.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) and the Resource Conservation and Recovery Act (RCRA) provide the legal authority for most of this work. The Agency and its partners use Superfund authority to clean up uncontrolled or abandoned hazardous waste sites and return the land to productive use. Under RCRA, EPA works with states and tribes to address risks associated with leaking underground storage tanks and with the hazardous and non-hazardous wastes generated or managed at industrial facilities. EPA also uses authorities provided under the Clean Air Act, Clean Water Act, and Oil Pollution Act of 1990 to protect against spills and releases of hazardous materials.[1]

Contributing Programs

- RCRA Waste Management
- RCRA Corrective Action
- RCRA Waste Minimization
- Superfund Emergency Preparedness
- Superfund Remedial
- Superfund Enforcement
- Superfund Removal
- Federal Facilities
- Oil Spills
- Leaking Underground Storage Tanks
- Underground Storage Tank Compliance
- Land Science and Research Program
- Homeland Security

Working with its partners and stakeholders, EPA made progress toward meeting its hazardous waste cleanup and prevention goals for FY 2005. The Agency's waste management and emergency response programs are restoring contaminated land to make it economically productive or available as green space. Like the Brownfields program discussed under Goal 4, these revitalization efforts complement traditional cleanup programs and enable affected communities to reuse contaminated lands in beneficial ways. EPA continues to review how revitalization efforts are measured across its cleanup programs and exploring opportunities for new or improved ways to capture these accomplishments.[2]

EPA's waste management programs work to reduce the amount of waste generated and increase recycling. The Agency and its partners are focusing their efforts on large waste streams that offer the greatest opportunities for increased recycling—such as paper, organics, and packaging and containers. EPA's Resource Conservation Challenge (RCC) is a voluntary program that increases regulatory flexibility, promotes opportunities for converting waste to economically viable products, and encourages resource conservation through efficient materials management.[3] The RCC encourages participants to reduce more waste, reuse and recycle more products, buy more recycled and recyclable products, and reduce toxic chemicals in waste.

Under Goal 3, EPA also strives to prevent releases of hazardous wastes that could harm the land and to clean up accidental and intentional releases when they do occur. To help prevent releases at hazardous waste management facilities, the Agency and its partners issue RCRA hazardous waste permits that mandate appropriate controls for each site. EPA met its FY 2005 goal to increase to 80 percent the number of RCRA hazardous waste management facilities with permits or other approved controls in place, and the Agency expects to bring 95 percent of its facilities' baseline under approved controls by FY 2008. To help detect and prevent releases from underground storage tanks (USTs) containing gasoline and other petroleum or chemical products, EPA is working to increase tank owners' and operators' compliance with UST leak prevention and detection requirements. Additionally, EPA's Leaking Underground Storage Tank (LUST) program completed 6,181 cleanups through the end of March 2005,[4] and end-of-year data that are currently undergoing quality assurance/quality control indicate that EPA's state partners completed 14,583 UST cleanups, thus meeting the target of 14,500[5].

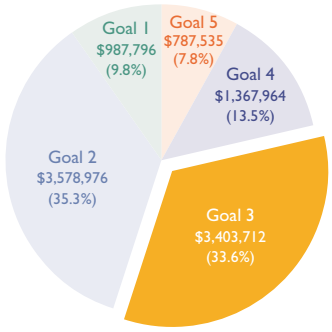
By the end of FY 2005, cleanups have also been completed at 966 Superfund sites on the National Priority List (NPL). EPA expects to continue completing construction at NPL sites at the current rate of 40 sites per year. In addition, the Agency conducts

Goal 3 At a Glance

FY 2005 Annual Performance Goals (APGs)

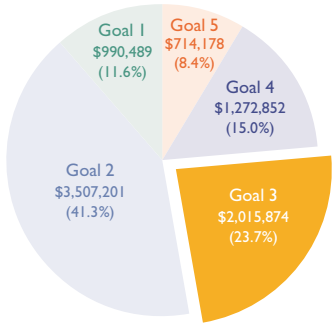
Met = 2 Not Met = 3
Data Available After November 15, 2005 = 2
(Total APGs = 7)

FY 2005 Obligations (in thousands)



EPA Total = $10,125,983

FY 2005 Costs (in thousands)



EPA Total = $8,500,594

FY 2005 "Report Card"

Strategic Objective	APG Status
 **Objective 1–Preserve Land** By 2008, reduce adverse effects to land by reducing waste generation, increasing recycling, and ensuring proper management of waste and petroleum products and facilities in ways that prevent releases.	0 Met 0 Not Met 2 TBD
 **Objective 2–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.	1 Met 3 Not Met 0 TBD
 **Objective 3–Enhance Science and Research** Provide and apply sound science for protecting and restoring land by conducting leading-edge research and developing a better understanding and characterization of the environmental outcomes under Goal 3.	1 Met 0 Not Met 0 TBD

and/or supports removal assessments and emergency responses and completes approximately 195 Superfund-led removal actions every year.

EPA is improving its emergency preparedness and response capabilities, particularly in terms of homeland security. During FY 2005, for example, EPA supported the Department of Homeland Security in implementing the National Response Plan, the National Information Management System, and the National Approach to Response. The Agency has also enhanced the nation's decontamination capabilities by establishing a National Decontamination Team and developing and implementing a National Decontamination Strategy. Finally, EPA's research in support of this goal helps to accelerate development of scientifically defensible, cost-effective waste management and remediation methods.

Response to Hurricane Katrina

In an ongoing response to the disaster caused by Hurricane Katrina, hundreds of EPA's emergency response personnel have been working virtually nonstop along the Gulf Coast as an integral part of the federal team implementing the National Response Plan. Many others have been providing the on-scene responders with 24-hour-a-day support from the Emergency Operations Center located at EPA Headquarters in Washington, D.C.

EPA teamed with the U.S. Coast Guard to respond to reported spills and releases of oil and chemicals. By the end of FY 2005, EPA had responded to more than 150 reported spills.

EPA took hundreds of floodwater samples to determine the kinds and extent of possible contamination, both biological and chemical. In late September 2005, EPA's ocean water testing vessel, the Bold, began taking samples of water quality, benthos, and fish tissues in the Gulf of Mexico in the plume of the Mississippi River.

Along with the U.S. Army Corps of Engineers, EPA worked on disposing of the enormous amounts of hazardous waste and other debris left behind by Hurricane Katrina, establishing several sites for debris collection. During September 2005, the EPA team collected more than 50,000 unsecured or abandoned containers of potentially hazardous wastes.

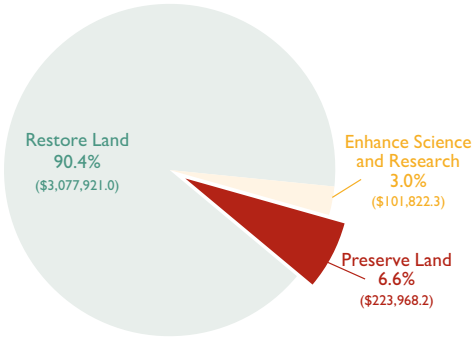
Goal 3 Strategic Objectives

Strategic Objective 1—Preserve Land

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

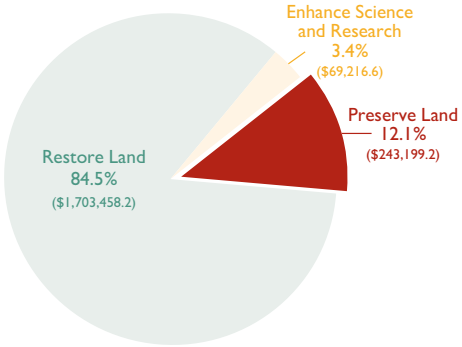
STRATEGIC OBJECTIVE 1—PRESERVE LAND		
APG #	APG Title	APG Status
3.1	Municipal Solid Waste Source Reduction	FY 2005 data available in FY 2007 and FY 2009
		✗ Not met in FY 2003
		✗ Not met in FY 2002
3.2	Manage Hazardous Waste and Petroleum Products Properly	FY 2005 data available in FY 2006
		✗ Not met in FY 2004

FY 2005 Obligations:
Goal 3, Strategic Objective 1
(in thousands)



Goal 3 Total = $3,403,711.5

FY 2005 Costs:
Goal 3, Strategic Objective 1
(in thousands)



Goal 3 Total = $2,015,874.0

OVERVIEW OF PERFORMANCE

While recycling in the United States has generally increased, recycling of specific materials has grown even more: 42 percent of all paper, 40 percent of all plastic soft drink bottles, 55 percent of all aluminum beverage cans, 57 percent of all steel packaging, and 52 percent of all major appliances are now recycled. To achieve national recycling goals, the Agency has developed alliances with manufacturers, communities, and governments to foster a new recycling infrastructure to reclaim valuable materials. As a result, EPA expects that these collaborative efforts will encourage higher recycling rates in future years. EPA's waste management programs are focusing on the largest waste streams offering the greatest opportunities to increase recycling: paper, organics, and packaging and containers. The Agency expects that the nation will meet the 2008 challenge of recycling 35 percent of municipal solid waste and generating a level of no more than 4.5 pounds of waste per capita daily.

EPA's primary strategy for preventing hazardous waste releases is issuing hazardous waste permits, which mandate appropriate controls for each site. EPA exceeded its long-term 2005 goal of bringing 80 percent of Resource Conservation and Recovery Act (RCRA)-regulated hazardous waste facilities under approved controls.

EPA expects to meet its FY 2005 goal for increasing the combined compliance rate by 1 percent from 64 to 65 percent for significant operational compliance with leak prevention and leak detection requirements for underground storage tanks, and was on track to meet this goal at mid-year.

CHALLENGES

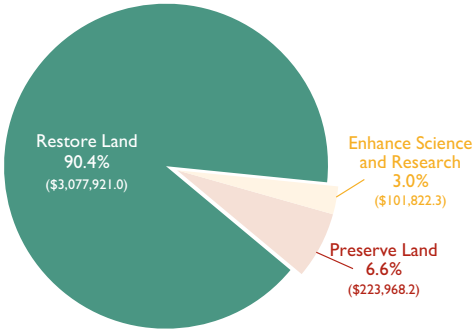
EPA is developing partnerships with manufacturers, communities, and governments to address the increasing variety and volume of obsolete electronic products entering the waste stream and increase recycling. Also, EPA will initiate a challenge to major industries to encourage the "early retirement" of devices containing mercury.

Strategic Objective 2—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.

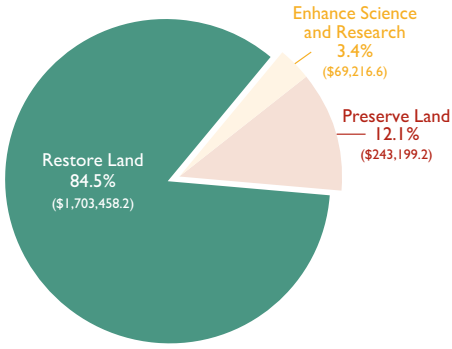
STRATEGIC OBJECTIVE 2—RESTORE LAND		
APG #	APG Title	APG Status
3.3	Assess and Clean Up Contaminated Land	✗ Not met in FY 2005
		✔ Assessment goal met in FY 2004
		✗ Cleanup goal not met in FY 2004
3.4	Superfund Potentially Responsible Party Participation	✔ Met in FY 2005
		✔ Met FY 2004 goals
3.5	Superfund Cost Recovery	✗ Not met in FY 2005
		✔ Met FY 2004 goals
3.6	Prepare For and Respond to Accidental and Intentional Releases	✗ Not met in FY 2005
		✔ Met FY 2004 goals

FY 2005 Obligations:
Goal 3, Strategic Objective 2
(in thousands)



Goal 3 Total = $3,403,711.5

FY 2005 Costs:
Goal 3, Strategic Objective 2
(in thousands)



Goal 3 Total = $2,015,874.0

OVERVIEW OF PERFORMANCE

The Superfund Remedial Program and Federal Facilities Response Program manage the risks to human health and the environment at contaminated properties or sites through cleanup, stabilization, or other action, making land available for reuse. The Superfund program has met or exceeded its FY 2005 goals for which data are available.

Under the RCRA corrective action program, final remedies are the long-term objective. These will be tracked beginning in FY 2006. Currently the program uses two indicators to assess the quality of the environment in relation to current human exposures to contamination and the migration of contaminated ground water. For FY 2005, the program achieved its annual target for the human exposure indicator, but did not meet the target for the groundwater migration indicator. However, through the efforts of EPA's state partners, the program achieved both of its long-term cumulative goals.

The Superfund Enforcement Program's "Enforcement First" strategy allows EPA to focus limited trust fund resources on sites where potentially responsible parties do not exist or lack the funds or capabilities needed to conduct the cleanup. The "Smart Enforcement" strategy focuses resources on the most significant problems and uses the most appropriate enforcement or compliance tools to achieve the best outcomes. Based on current data, EPA expects to meet both Superfund enforcement goals for FY 2005.

Oil and chemical accidents can devastate communities and the environment. EPA continues to improve the capacity of our national responders to plan for and respond to both accidental and intentional releases.

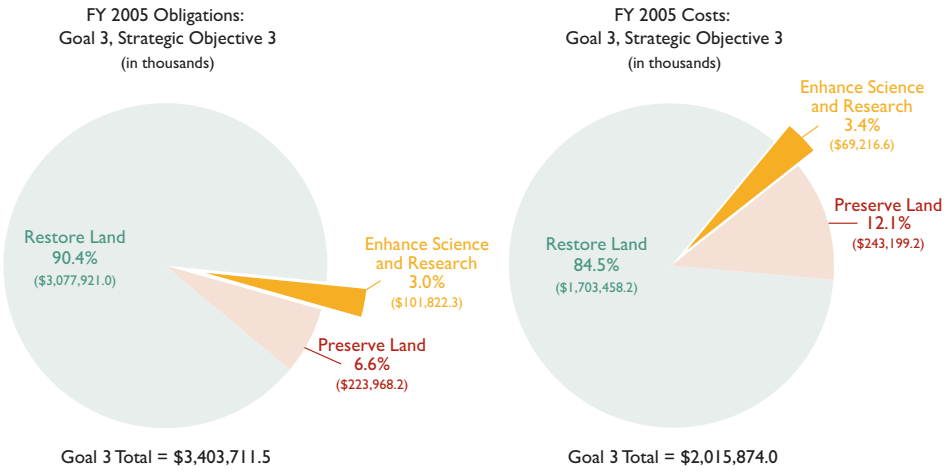
CHALLENGES

EPA faces challenges in balancing limited resources between beginning construction at an increasing number of projects and maintaining an optimal pace of remedial action at several ongoing, large, and complex sites. In addition, as the Superfund program has matured, the Agency has needed to devote more resources toward post-construction activities, including long-term remedial actions and 5-year reviews.

Strategic Objective 3—Enhance Science and Research

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

STRATEGIC OBJECTIVE 3—ENHANCE SCIENCE AND RESEARCH		
APG #	APG Title	APG Status
3.7	Scientifically Defensible Decisions for the Site Cleanup	✔ Goal met in FY 2005
		✔ Met FY 2004 goals



OVERVIEW OF PERFORMANCE

EPA conducts sound, leading-edge scientific research to provide a foundation for preserving land quality and remediating contaminated land. The research program focuses the important issues of contaminated sediments, ground water contaminated transport and remediation, and site characterization. In addition, the research program provides site-specific technical support. Research on waste management, resource conservation, and multimedia modeling supports the Agency's regulatory activities in areas such as waste-derived products, modeling to support risk assessment activities, landfill issues, and the Resource Conservation Challenge.

Superfund Innovative Technology Evaluation (SITE) demonstrations are performed to independently document innovative remediation technology or monitoring and measurement approaches so that project managers can more confidently select new technologies.

Through June 2005, EPA has completed 137 remediation technology demonstrations and 40 measuring and monitoring demonstrations (www.epa.gov/ORD/SITE/quarterly/022005/stats.htm). Demonstration reports are posted on the SITE Web site (www.epa.gov/ORD/SITE/), and results from the projects are incorporated into REACH IT (www.epareachit.org/), a Web-accessible technology selection tool that provides project managers with information on characterization and remediation technologies by contaminant type and site type.

CHALLENGES

As the Superfund program has matured, innovative approaches evaluated through the SITE program have become standard tools for remediation. As a result, the program will conclude demonstrations of innovative remediation, monitoring, and measurement approaches in FY 2006. The research program will continue to conduct problem-driven research to produce methods and models to meet the target for developing or evaluating 40 scientific tools in the FY 2010 long-term goal, established in FY 2003.

Goal 3 Annual Performance Goals

Strategic Objective 1—Preserve Land

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

APG 3.1 Municipal Solid Waste Source Reduction

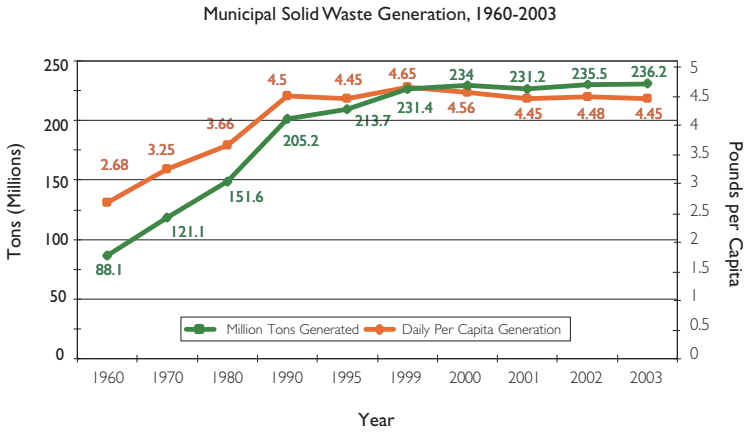
PERFORMANCE

APG 3.1 focuses on increasing the nation's recycling efforts to conserve resources, reduce energy consumption, and reduce greenhouse gases associated with materials that are disposed of, rather than recycled.

Data reported in FY 2005 show that EPA did not meet its FY 2003 target of 74 million tons of municipal solid waste (MSW) diverted. EPA exceeded its goal of maintaining the amount of waste generated to 4.5 pounds per person per day. Recycling, including composting, diverted 72 million tons of material away from disposal in 2003, up from 15 million tons in 1980, when the recycling rate was just 10 percent and 90 percent of MSW was being disposed. Furthermore, U.S. residents, businesses, and institutions produced more than 236 million tons of MSW in 2003, which is approximately 4.4 pounds of waste per person per day. In response, EPA is directing its efforts toward large quantity waste streams that present opportunities to increase recycling—paper, organics (yard trimmings

DATA AVAILABLE FY 2007 AND FY 2009	**FY 2005:** Divert an additional 1% (for a cumulative total of 35% or 82.7 million tons) of municipal solid waste from landfilling and combustion, and maintain per capita generation of RCRA municipal solid wastes at 4.5 pounds per day.		
	Performance Measures	*Planned*	*Actual*
	(Performance measure is included in the annual goal above.)	82.7M	Data avail 2009
	• Millions of tons of municipal solid waste diverted.	81M	Data avail 2007
	• Daily per capita generation of municipal solid waste. (PART)	4.5 lbs	
DATA AVAILABLE FY 2006	**FY 2004:** Same goal, different targets.		
	(Performance measures are included in the annual goal above.)	*Planned* 79 M 4.5 lbs	*Actual* Data avail 2006
✗ GOAL NOT MET FOR FY 2003	**FY 2003:** Same goal, different targets.		
	(Performance measures are included in the annual goal above.)	*Planned* 74M 4.5 lbs	*Actual* 72.3 ✗ 4.4 lbs ✔
✔ GOAL MET FOR FY 2002	**FY 2002:** Same goal, different targets.		
	(Performance measures are included in the annual goal above.)	*Planned* 69M 4.5 lbs	*Actual* 70M ✔ 4.5 lbs. ✔

Data Source(s): Data are provided via a methodology that utilizes materials production and consumption data from various industries. This information is collected by the Department of Commerce. Additional facts and figures about municipal solid waste (MSW) generation and recycling in the United States can be found in the following Web sites. Also, information about specific EPA programs such as WasteWise and environmentally beneficial landscapes (Greenscapes) is available as follows: www.epa.gov/msw, www.epa.gov/epr, www.epa.gov/wastewise, www.epa.gov/greenscapes, http://yosemite.epa.gov/oar/globalwarming.nsf/content/ActionsWaste.html, www.epa.gov/epaoswer/non-hw/muncpl/msw99.htm, www.epa.gov/epaoswer/osw/conserve/action-plan/act-p1.htm.



and food scraps), and packaging and containers.[6] Furthermore, U.S. residents, businesses and institutions produced more than 236 million tons of MSW in 2003, which is approximately 4.4 pounds of waster per person per day.

To implement this strategy, the Agency is: (1) establishing and expanding partnerships with businesses, industries, states, communities, and consumers; (2) stimulating infrastructure development, new technologies, and environmentally responsible behavior by product manufacturers, users, and disposers; and (3) providing education, outreach, and technical assistance to businesses, government, institutions, and consumers. For example, EPA is working with communities, industry, and government to make paper recycling a routine business practice. To address the increasing variety and volume of obsolete electronic products entering the waste stream and increase recycling, EPA is allied with manufacturers, communities, and governments to foster a new recycling infrastructure that will reclaim valuable materials. As a result of these efforts, EPA anticipates meeting the 2008 challenge of recycling 35 percent of MSW and generating a level of no more than 4.5 pounds of waste per capita daily.

Data Quality: A description of the data used to measure EPA's performance can be found in Appendix C, pages C-33–C-34.

CHALLENGES

A number of factors influence the national recycling rate, including the economy, the increase in convenience packaging, and the increase in waste generated away from the home. EPA achieved a 30.6 percent recycling rate for 2003, an increase of 0.7 percent over the 2002 recycling rate of 29.9 percent. If the Agency can maintain a 0.7 percent increase each year, it should reach a 32 percent recycling rate in 2005. However, to reach the goal of 35 percent recycling by 2008, the rate would need to increase by 1 percent per year.

As recycling increases each year, achieving additional incremental increases becomes more difficult. EPA continues to foster progress through non-regulatory activities that leverage and mobilize public and private organizations across the United States.

Program Assessment Rating Tool (PART)

OMB assessed the RCRA Base Permits and Grants program related to this APG in the 2004 PART process. The program received an adequate rating.

Program Evaluations

EPA report: "Evaluation of Three RCRA Regulations Designed to Foster Increased Recycling." Additional information on this report is available in the Program Evaluation Section, Appendix B.
Office of Policy, Economics, and Innovation report: "Evaluation of the Interagency Open Dump Cleanup Program for Tribes." Additional information on this report is available in the Program Evaluation Section, Appendix B, page B-14.

APG 3.2 Manage Hazardous Waste and Petroleum Products Properly

PERFORMANCE

EPA's primary approach to preventing releases of hazardous waste is issuing facility permits that mandate appropriate controls for each site. EPA exceeded its long-term 2005 strategic target of bringing 80 percent of facilities approved controls, primarily due to focused state efforts to permit backlogged facilities. As appropriate, many of these facilities were able to "have approved controls to prevent dangerous releases" by means other than permits. EPA assisted states in identifying solutions for unusual situations (such as applying the post-closure rule in lieu of a permit) and resolved many data issues while assessing facilities to bring them under approved controls. The cumulative status at the end of FY 2005 was 90 percent. During FY 2005 alone, 3.1 percent (or 84) of 2,751 regulated facilities were brought under approved controls.

EPA is currently on target to have 95 percent of these facilities under approved controls by the end of 2008. The baseline for this measure has been updated for the FY 2006-2008 cycle, eliminating double-counting of about 300 facilities that had both operating units and post-closure units, including facilities that came on the permitting track after October 1, 1997, and removing facilities that do not fit the criteria. In the future, most modifications to the baseline will be made at the unit level; however, a few changes at the facility level are likely due to facilities splitting, data corrections, or other unforeseen activities.

DATA AVAILABLE FY 2006

FY 2005: Reduce releases to the environment by managing hazardous wastes and petroleum products properly.

Performance Measures	*Planned*	*Actual*
• *Percent increase of RCRA hazardous waste management facilities with permits or other approved controls. (PART)*	2.8%	3.1% ✔
• Number of confirmed UST releases nationally.	<10,000	Data avail FY 2006
• Percent increase of UST facilities that are in significant operational compliance with both release detection and release prevention (spill, overfill, and corrosion protection requirements).	+1% from baseline of 64%	

✗ GOAL NOT MET FOR FY 2004

FY 2004: Reduce releases to the environment by managing hazardous wastes and petroleum products properly.

Performance Measures	*Planned*	*Actual*
• *RCRA hazardous waste management facilities with permits or other approved controls. (PART)*	2.4%	3.7% ✔
• Confirmed UST releases nationally.	<10,000	7,848 ✔
• Increase in UST facilities in significant operational compliance with leak detection requirements.	4%	-4% ✗
• Increase in UST facilities in significant operational compliance with spill, 4% overfill and corrosion protection regulations.	4%	-6% ✗

Data Source(s): RCRA Info; UST/LUST FY 2004 End-of-Year Activity Report, November 24, 2004 (updated semiannually). Also see www.epa.gov/oust/cat/ca_043_4.pdf.

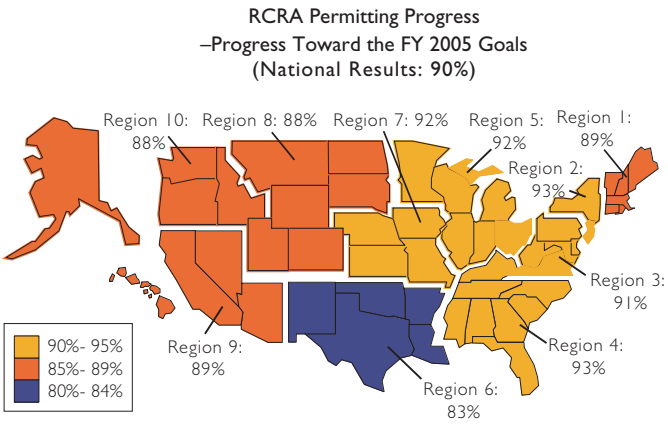
Program Assessment Rating Tool (PART)

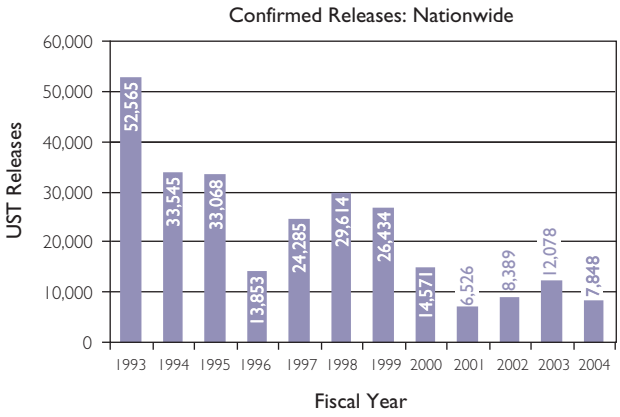
OMB assessed the RCRA Base Program, Permits and Grants program related to this APG in the 2004 PART process. The program received an adequate rating.

Grants Supporting the Achievement of This APG

3011 State and Tribal Grants (STAG)—RCRA authorizes EPA to assist states through the Hazardous Waste Financial Assistance Grants program, which provides for implementing an authorized hazardous waste management program. These programs authorize permits to industrial facilities that generate, transport, treat, store, and dispose of hazardous wastes, and include corrective action to control and clean up releases at facilities that manage hazardous waste. STAG funding also supports tribes, where appropriate, in conducting hazardous waste work on tribal lands.

To prevent releases from underground storage tanks (USTs), EPA and its partners ensure that UST systems are in significant operational compliance with required release detection and release prevention equipment and that the equipment is used, functioning, and properly maintained. In FY 2004, the two performance measures for UST facility compliance were not met;





therefore, the APG was not met. Nationally, the compliance rate of UST facilities was 77 percent for release prevention (or 6 percent below the target rate of 83 percent), and 72 percent for leak detection (or 4 percent below the target rate of 76 percent). Because these rates represent a snapshot in time such that some UST facilities that are compliant 1 year may be out of compliance the following year, reporting of a new combined significant operational compliance measure began in FY 2004. The new measure was developed jointly by EPA and the states, setting a target of increasing the combined leak prevention and leak detection measure for USTs nationwide by 1 percent each year through FY 2008, using the baseline compliance rate of 64 percent for that year. End-of-year performance data for the UST compliance program will be available in December 2005; however, as of midyear, EPA was on track to meet the target compliance rate. Additionally, as of March 2005, there were only 1,574 confirmed releases, indicating the continuing decline in releases nationwide.

Data Quality: A description of the data used to measure EPA's performance can be found in Appendix C, pages C-33–C-35.

CHALLENGES

Hazardous waste facilities that remain to be brought under control often present complex management issues. For example, a relatively large percentage of boilers and industrial furnaces (BIFs) need to be brought under control, and many have been waiting for the Hazardous Waste Combustion Maximum Achievable Control Technology (MACT) rule to be finalized before they complete permitting. Furthermore, because BIFs are complex and controversial facilities, more time is required to evaluate technical information, address risks, and deal with public concerns. Large federal facilities, particularly those with nontraditional treatment units, also prove difficult to bring under approved controls. EPA is working with states to develop strategies for addressing these types of facilities.

Strategic Objective 2—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.

APG 3.3 Assess and Clean Up Contaminated Land

PERFORMANCE

Goal Not Met: In FY 2005, the Superfund program met most of its performance measures. The graph below shows the number of construction completions annually and final deleted NPL sites by the program since its inception. In FY 2005, 40 construction completions were achieved.

The efficiency measure (percentage of Superfund spending obligated site-specifically) was not met. During FY 2003, when the measure and targets were

developed, the Agency relied on preliminary, internally generated data that did not use formally accepted data extraction or calculation methods. As a result, the FY 2003 site-specific percentage of 55 percent was used as a starting point for future year targets. Since then, the methodology for determining the Agency site-specific percentage was finalized and applied to FYs 2004 and 2005 data. Results indicate that EPA increased its Agency-wide site-specific obligations from 53.6 percent in FY 2004 to 54.3 percent in FY 2005, but did not meet the target of 56 percent. However, formal data extraction methods were not developed until FY 2005 and could not be applied to prior year (neither FY 2003 nor FY 2004) data. Consequently, EPA recommends establishing a new baseline of 54.3 percent and is working with OMB to establish new out-year targets.

EPA also conducted a comprehensive reassessment of the data used to determine the number of Superfund sites with human exposures controlled in order to improve how actual conditions are accounted for at these sites. Because the reassessment process continued through November 2005, no end of year result for this measure is available. The program expects to revise the definition of the performance measure to include achieving more permanent, long-term control and protection at these sites, and set a new baseline by the end of calendar year 2005.

The RCRA Corrective Action Program uses two indicators to assess the quality of the

✗ GOAL NOT MET

FY 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.

Performance Measures	*Planned*	*Actual*	
• *Number of Superfund final site assessment decisions. (PART)*	500	551	✔
• *Number of Superfund construction completions. (PART)*	40	40	✔
• *Number of Superfund hazardous waste sites with human exposures controlled. (PART)*	10	see text below	
• *Number of Superfund hazardous waste sites with ground water migration controlled. (PART)*	10	23	✔
• *Percentage of Superfund spending obligated site-specifically. (PART)*	56%	54.3%	✗
• Number of final remedies (cleanup targets) selected at Superfund sites.	20	39	✔
• *Number of high priority RCRA facilities with human exposures to toxins controlled. (PART)*	190	209	✔
• *Number of high priority RCRA facilities with toxic releases to ground water controlled. (PART)*	203	142	✗
• *Reduce the number of LUST cleanups that exceed state risk-based standards for human exposure and ground water migration. (Tracked as: Number of leaking underground storage tank cleanups completed.) (PART)*	14,500	14,583	✔
• *Reduce the number of LUST cleanups that exceed risk-based standards for human exposure and ground water migration in Indian country. (Tracked as: Number of leaking underground storage tank cleanups completed in Indian country.) (PART)*	30	50	✔

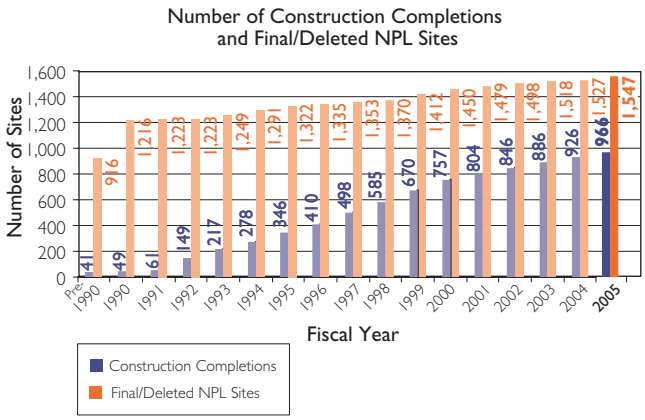
✗ GOAL NOT MET FOR FY 2004

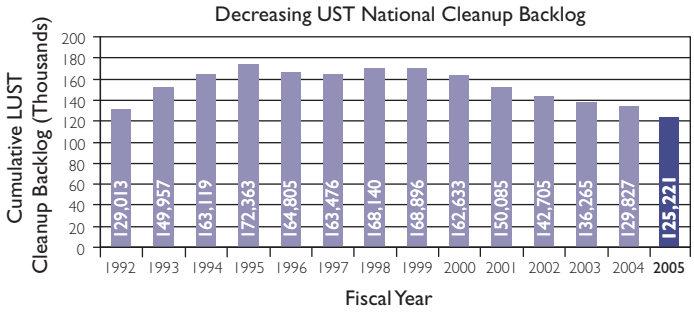
FY 2004: Control the risks to human health and the environment at contaminated properties or sites through cleanup, stabilization, or other action, and make land available for reuse.

Performance Measures	*Planned*	*Actual*	
• *Superfund final site assessment decisions. (PART)*	500	548	✔
• *Superfund construction completions. (PART)*	40	40	✔
• *Superfund hazardous waste sites with human exposures controlled. (PART)*	10	15	✔
• *Superfund hazardous waste sites with ground water migration controlled. (PART)*	10	18	✔
• Final remedies (cleanup targets) selected at Superfund sites.	20	31	✔
• *High priority RCRA facilities with human exposures to toxins controlled. (PART)*	166	195	✔
• *High priority RCRA facilities with toxic releases to ground water controlled. (PART)*	129	150	✔
• LUST cleanups completed.	21,000	14,285	✗

Data Source(s): Superfund CERCLIS; LUST FY 2004 End-of-Year Activity Report, November 24, 2004 (updated semiannually). Additional information about the Superfund Remedial Program may be found at www.epa.gov/superfund. Additional information on the RCRA Corrective Action Program can be found at www.epa.gov/correctiveaction. Additional information about the Superfund Federal Facilities Response Program can be found at www.epa.gov/fedfac.

Additional information on the LUST program can be found at www.epa.gov/ swerust1/20cleanup.htm and www.epa.gov/OUST/ltffacts.htm.





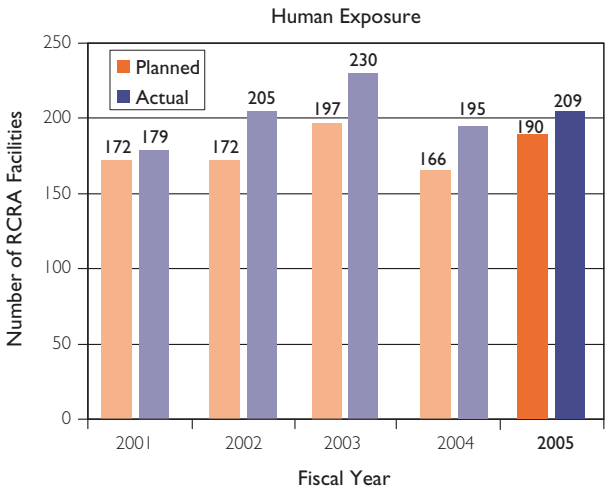
environment in relation to current human exposures to contamination and the migration of contaminated ground water. In FY 1998, the program set long-term cumulative goals for these two indicators to be achieved by the end of FY 2005. These goals are to control human exposures at 95 percent of the 1,714 highest priority facilities and to control the migration of contaminated ground water at 70 percent of these facilities. For FY 2005, the program achieved its annual target for the human exposure indicator, but did not meet the target for the ground water migration indicator. However, through the efforts of our state partners, the program achieved both of its long-term cumulative goals.

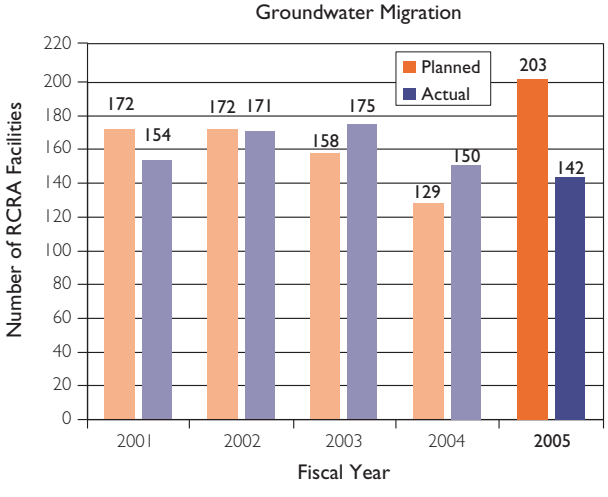
In FY 2006, the program will expand its focus to stabilizing only the highest priority facilities (as measured by the two environmental indicators) to putting final remedies in place. The program's goals for FY 2008 are to have final remedies selected at 30 percent of the 1,968 highest priority facilities (represents new baseline) and final remedies constructed at 20 percent of these facilities.

For FY 2005, data currently undergoing quality assurance/quality control indicate that EPA's state partners completed 14,583 UST cleanups, thus meeting the target of 14,500.[7] The Agency has been working with state partners to evaluate cleanup targets for future years in light of new pressures that have slowed the pace of cleanups in recent years, including a backlog of more complex sites, the more frequent discovery of methyl tertiary butyl ether (MTBE) contamination, and increased administrative and legal burdens associated with site cleanup. In FY 2004, EPA's state partners completed 14,285 of the targeted 21,000 UST cleanups; therefore the APG was not met. Through March 2005, 6,181 UST cleanups had been completed, thereby decreasing the UST national cleanup backlog to 125,221.[8]

Data Quality: A description of the data used to measure EPA's performance can be found in Appendix C, pages C-36–C-39.

RCRA Environmental Indicators





Program Assessment Rating Tool (PART)

OMB assessed the Superfund Remedial program related to this APG in the 2004 PART process. The program received an adequate rating. OMB is assessing the Superfund Federal Facilities program related to this APG in the 2005 PART process. Results will be included in the FY 2007 President's Budget. OMB assessed the RCRA Corrective Action program related to this APG in the 2003 PART process. The program received an adequate rating. OMB reassessed the LUST program related to this APG most recently in the 2004 PART process. The program received an adequate rating.

Program Evaluations

Details on the following evaluations completed during FY 2005 are available in Appendix B—Program Evaluations, pages B-12–B-15.

- The Office of the Inspector General (OIG) report: "EPA Can Better Manage Superfund Resources."
- OIG report: "Response Action Contracts: Structure and Administration Needs Improvement."
- OIG report: "EPA Practices for Identifying and Inventorying Hazardous Sites Could Assist in Similar Department of the Interior Efforts."
- GAO evaluation: "Improved Effectiveness of Controls at Sites Could Better Protect the Public."
- Office of Superfund Remediation and Technology Innovation evaluation: "An Internal Review of Procedures for Community Involvement in Superfund Risk Assessments."

Additional program evaluation information:

- Superfund's Federal Facilities Response Program completed an evaluation entitled "Measuring EPA's Value-Added to the Department of Defense (DoD) Base Realignment and Closure (BRAC) Program."
- EPA's Office of Superfund Remediation and Technology Innovation conducted an evaluation entitled "Superfund Community Involvement Impact Assessment of the Woolfolk Chemical Works Site in Fort Valley, Georgia."
- The Superfund program initiated evaluations on site-specific payroll charging practices and processes, long-term ground water monitoring plans using newly developed optimization tools, and community involvement in risk assessment.
- OIG report: "The Role of Superfund NPL: State Cleanup Program."

Grants Supporting the Achievement of This APG

EPA awards six types of Superfund cooperative agreements to states, political subdivisions of states, federally recognized Indian tribes, and U.S. territories. These intergovernmental partners help EPA achieve its strategic goals by sharing the responsibilities for cleaning up sites on the NPL.

Technical Assistance Grants (TAGs) are an important tool for involving the local community meaningfully in the cleanup process. By providing independent technical expertise to local communities, TAGs help community members better understand the technical issues affecting site cleanups, the risks associated with site contamination, and options for effective and safe site remediation.

The Technical Outreach Services for Communities (TOSC) Program provides free, independent, university-based technical assistance to communities facing hazardous waste contamination issues that do not qualify for TAGs. Created in 1994, TOSC has provided more than 200 communities with an independent understanding of technical issues related to hazardous substance contamination, enabling them to participate substantively in the decision-making process.

STAG grants support the RCRA Corrective Action Program and help to control human exposure to toxins and toxic releases to ground water at high priority RCRA facilities.

Under LUST Cooperative Agreements, EPA awarded funds to 50 states, the District of Columbia, Puerto Rico, four U.S. territories, and 10 tribes. Funding to tribes helped to address a contaminated LUST site on the Onondaga Indian Nation, provide equipment for tribal inspectors, build LUST program capacity, and oversee LUST program implementation.

Categorical Grant: Underground Storage Tank. EPA provides funding to states, Tribes, and/or Intertribal Consortia through these grants to encourage owners and operators to properly operate and maintain their USTs. Major activities focus on ensuring that owners/ operators routinely and correctly monitor all regulated tanks and piping in accordance with UST regulations as well as developing state programs with sufficient authority and enforcement capabilities to operate in lieu of the Federal program.

CHALLENGES

While the Superfund program met most of its FY 2005 performance targets, it faced significant challenges. EPA must address a large and increasing number of projects ready to begin construction while maintaining the pace of ongoing cleanups at several large, complex sites. In addition, as the program has matured, it has been required to increase post-construction activities, including long-term remedial actions and 5-year reviews. To meet these challenges, the Agency has proposed to focus additional resources toward construction beginning in FY 2007 by redirecting resources from other response and response-support activities in earlier phases of the Superfund cleanup process into construction. (Relates to management challenges discussed in Section III, page 184.)

The RCRA Corrective Action Program also faced complexities in addressing remaining facilities. During FY 2005, many of the facilities posed difficult challenges to controlling human exposures such as addressing wide-spread contamination, intrusion of toxic vapors, ingestion of contaminated fish, and bankrupt or nonexistent owners. As a result, EPA and authorized states shifted their resources from controlling migration of contaminated ground water to ensuring that humans were not exposed to contamination at as many facilities as possible.

APG 3.4 Superfund Potentially Responsible Party Participation

PERFORMANCE

EPA met this goal for FY 2005. EPA is committed to identifying liable Potential Responsible Parties (PRPs) at contaminated sites and to taking enforcement actions at 90 percent of those sites before remedial action begins. By securing private party commitments to clean up hazardous waste sites, EPA ensures that trust fund money is used only when absolutely necessary. Settlements or enforcement actions included Consent Decrees, Administrative Orders on Consent, Consent Agreements, Unilateral Administrative Orders, voluntary cost recovery actions, or litigation referral.

✔ GOAL MET

FY 2005: Reach a settlement or take an enforcement action by the start of Remedial Action (RA) at 90 percent of non-federal Superfund sites that have viable, liable parties.

Performance Measure	*Planned*	*Actual*	
• Percentage of Superfund sites at which settlement or enforcement action is taken before the start of an RA.	90%	100%	✔

Data Source: CERCLIS is the automated database used by the Agency to track, store, and report Superfund site information. EPA's headquarters and regional offices enter data into CERCLIS on a rolling basis. Each performance measure is a specific variable within CERCLIS. Also see www.epa.gov/enforcement/cleanup.

Data Quality: A description of the data used to measure EPA's performance can be found in Appendix C, page C-40.

Program Assessment Rating Tool (PART)

OMB reassessed the Civil Enforcement program, which includes Superfund Enforcement, most recently in 2004. The program received an adequate rating.

APG 3.5 Superfund Cost Recovery

PERFORMANCE

Goal Not Met: Through enforcement, settlement, or compromise/write-off, cost recovery was addressed at 195 NPL and non-NPL sites, of which 94 of the 95 cost recovery cases had outstanding unaddressed past costs greater than $200,000 and pending statute of limitations (SOL)

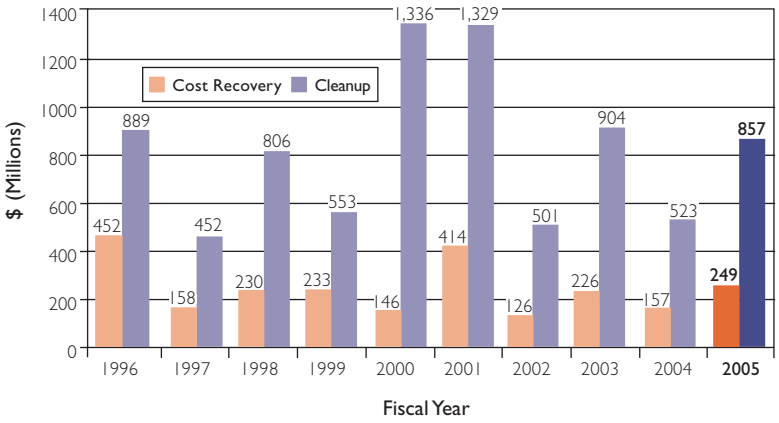
✗ GOAL NOT MET

FY 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 on total past costs equal to or greater than $200,000.

Performance Measure	*Planned*	*Actual*	
• Refer to Department of Justice, settle, or write off 100% of Statute of Limitations cases for Superfund sites with total unaddressed past costs equal to or greater than $200,000 and report value of costs recovered.	100%	99%	✗

Data Source: CERCLIS is the automated database used by the Agency to track, store, and report Superfund site information. EPA's headquarters and regional offices enter data into CERCLIS on a rolling basis. Each performance measure is a specific variable within CERCLIS. Also see www.epa.gov/enforcement/cleanup.

Annual Response and Cost Recovery Settlements, FY 1996–FY 2005



concerns. Decision documents for the remaining case were signed soon after the end of the fiscal year, and costs associated with it were written-off because the attorneys concluded that there were no viable, liable parties at the site. In FY 2005, EPA secured private party commitments for cleanup and cost recovery that exceeded $1.1 billion.

EPA continues to pursue the "Enforcement First" strategy to focus limited trust fund resources on sites where PRPs do not exist or lack the funds or capabilities needed to conduct the cleanup. By taking enforcement actions at sites where viable, liable parties exist, EPA will continue to leverage private-party dollars to clean up hazardous waste sites so that trust fund money is used only when absolutely necessary.

EPA relies on "Smart Enforcement" to focus program resources on the most significant problems and to use the most appropriate enforcement and compliance tools to achieve the best outcomes.

Data Quality: A description of the data used to measure EPA's performance can be found in Appendix C, page C-40.

Program Assessment Rating Tool (PART)

OMB reassessed the Civil Enforcement program, which includes Superfund Enforcement, most recently in 2004. The program received an adequate rating.

APG 3.6 Prepare for and Respond to Accidental and Intentional Releases

PERFORMANCE

Goal Not Met: Although this annual performance goal was not met, it includes several new performance measures that better track environmental progress for the Superfund removal and oil spill programs as a result of PART reviews. Among the existing measures, the Agency missed the target for responding to or monitoring 300 oil spills, however, the program participated actively in the 260 that occurred within EPA's jurisdiction. Given that the number of oil spills that require EPA's participation fluctuates from year to year, the Agency cannot accurately predict a target for this measure. However, EPA ensured

✗ GOAL NOT MET

FY 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.

Performance Measures	*Planned*	*Actual*	
• Oil spills responded to or monitored by EPA.	300	260	✗
• Number of inspections and exercises conducted at oil storage facilities that are required to have Facility Response Plans (FRP).	360	335	✗
• *Number of Superfund lead removal response actions completed. (PART)*	195	172	✗
• *Voluntary removal actions, overseen by EPA, completed. (PART)*	110	137	✓
• *Superfund removal actions completed annually per million dollars. (PART)*	0.9	1.54	✓
• *Compliance rate of inspected facilities subject to Spill Prevention, Control, and Countermeasures (SPCC) regulations. (PART)*	100%	100%	✓
• *Compliance rate of inspected facilities subject to FRP regulations. (PART)*	100%	77%	✗
• Percentage of emergency response readiness improvement. 2003 Baseline: 82%	10%	10%	✓

Data Source(s): Data for the Superfund Removal program will be provided by CERCLIS. Data on the Oil Program will be provided by the EPA regional offices. Also see www.epa.gov/oem.

that all oil spills within its jurisdiction were properly evaluated and addressed.

With respect to the newly external measure that tracks FRP facility inspections, the target to inspect 6 percent of these facilities nationwide was set in FY 2003 using an inaccurate estimate of the universe of facilities. Recent data assessment efforts with EPA's regional offices have indicated that there are approximately 5,000 facilities subject to FRP regulations rather than 6,000; thus the target should have been set at 300 rather than 360. The actual number of facilities inspected was 335.

The Agency also missed the target for completing 195 Superfund-lead removal actions. EPA completed 23 less than expected due to the difficulty of predicting accurately the number of time-critical and emergency response actions that are identified and referred to EPA by the states or other agencies; an increase in the scope of response needed at several actions following the initiation of field work; and greater than anticipated participation by Agency staff in support of emergency preparedness activities and response to Hurricanes Katrina and Rita.

The compliance rate of facilities subject to FRP regulations was 77 percent primarily because the determination of compliance is not consistent among EPA regional offices. The program will issue national guidance next year to provide a consistent definition for compliance at these facilities.

EPA continues to improve the capacity of our national responders to plan for and respond to accidental and intentional releases. The Agency is identifying and monitoring the key elements and standards of an emergency response and homeland security program, inspecting and conducting response plan exercises at higher risk oil storage facilities, and tracking the number of chemical and oil incidents to which EPA responds or monitors.

Program Assessment Rating Tool (PART)

OMB is reassessing the Superfund Removal program and assessing the Oil Spill program related to this APG in the 2005 PART process. Results will be included in the FY 2007 President's Budget.

Data Quality: A description of the data used to measure EPA's performance can be found in Appendix C, page C-35.

CHALLENGES

EPA will strive to maintain an effective and efficient emergency planning and response program while addressing any new homeland security issues that arise.

Strategic Objective 3—Enhance Science and Research

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

APG 3.7 Scientifically Defensible Decisions for the Site Cleanup

PERFORMANCE

EPA conducts sound, leading-edge scientific research to provide a foundation for preserving land quality and remediating contaminated land. The research program focuses on the important issues of contaminated sediments, ground water contaminant transport and remediation, and site characterization. In addition, the research

✔ GOAL MET	**FY 2005:** Complete at least four SITE demonstrations, with emphasis on Non-Aqueous Phase Liquids (NAPLs) and sediments, in order to, by 2010, develop or evaluate 40 scientific tools, technologies, methods, and models, and provide technical support that enables 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.		
(Performance measure is included in the annual goal above.)		*Planned* 4	*Actual* 6 ✔

Data Source(s): EPA Quarterly Reports and EPA Project manager files. The SITE program home page provides access to program statistics, project status, publications and recent quarterly reports, www.epa.gov/ORD/SITE/. Information from SITE demonstrations and other sources are combined in a searchable characterization and remediation technology selection tool, www.epareachit.org/.

The Contaminated Sites Multi-Year Plan, which includes the SITE program, www.epa.gov/osp/myp/csites.pdf.

program provides site-specific technical support. Research on waste management, resource conservation, and multimedia modeling supports OSW regulatory activities in areas such as waste-derived products, modeling to support risk assessment activities, landfill issues, and the Resource Conservation Challenge.

SITE demonstrations are performed to independently document innovative remediation technology or monitoring and measurement approaches so that project managers can more confidently select new technologies.

EPA completed six demonstration projects in FY 2005, including two sediment technologies and three NAPL technologies to document the performance of new or improved technologies in field situations. A dioxin demonstration involving six regions has already significantly influenced decisions in choosing a screening method: the tested methods cost about 40 percent of the conventional method. Regional offices now have the documented results they need to justify selecting one of these methods. This will realize significant savings in time and cost, since each region requires many hundred dioxin analyses every year.

Program Evaluations

EPA Science Advisory Board panel report: "Advisory on the Office of Research and Development's Contaminated Sites and RCRA Multi-Year Plans." Additional information on this report is available in the Program Evaluation Section, Appendix B, page B-16.

Waste Management of Kentucky won a 2005 Gold Award from the Solid Waste Association of North America for the Outer Loop Landfill. The award was made in large part for the ongoing landfill bioreactor research being carried out at the site by Waste Management of Kentucky and EPA under a cooperative research and development agreement. An article in MSW Management described the research as "unique and significant" and noted the potential for "significant environmental and economic benefits in the years to come". (MSW Management, September/October 2005, pp. 52-55; www.mswmanagement.com)

Products and activities for the land research program in FY 2005 included the completion, peer-review, and implementation of a customer-focused research plan to address the ecological effects of contaminated sediments. Among the first products of this plan is a model for extrapolating predictions about bioaccumulation of toxic chemicals across species, time and/or ecosystems. When fully validated, this model will greatly simplify the task and improve the scientific certainty of ecological risk assessments performed at contaminated sediment sites.

Also, the Science Advisory Board (SAB) review of the Multimedia, Multipathway, and Multireceptor Risk Assessment (3MRA) modeling system concluded that 3MRA provided a scientifically defensible framework that gives reproducible results for determining national exit levels for RCRA-listed hazardous wastes. The research program on 3MRA is responding to SAB recommendations.

A report on vapor intrusion modeling titled "Uncertainties in Vapor Intrusion Calculation," was also produced in FY 2005. The results of this work indicated that the uncertainties that exist in input parameters result in expected uncertainties in the model outputs and that synergies between these parameters can amplify the uncertainties. Sensitivity analysis identified the input parameters that were the most important to reduce uncertainty.

Data Quality: A description of the data used to measure EPA's performance can be found in Appendix C, page C-40.

CHALLENGES

As the Superfund program has matured, innovative approaches evaluated through the SITE program have become standard tools for remediation, and as a result,

the program will conclude demonstrations of innovative remediation, monitoring, and measurement approaches in FY 2006. The entire research program will continue to conduct problem-driven research to produce methods and models to meet the target for developing or evaluating 40 scientific tools in the FY 2010 long-term goal, established in FY 2003.

Goal 3—PART Measures With Data Availability Beyond FY 2005

EPA and OMB established the annual and efficiency measures included on this table through PART Assessments. These measures will be incorporated into EPA's budget and GPRA documents, including the PAR, as data becomes available. The column titled "Data Available" provides the most current estimate for the date EPA expects to report on each measure.

PART Program	PART Measure	Status	Data Available
Leaking Underground Storage Tanks	Comparison of LUST cleanups completed over a three year rolling average with public and private sector cleanup costs.	Collecting Data	FY 2008
RCRA Base Program, Permits and Grants	Facilities under control (permitted) per total permitting costs.	Collecting Data	FY 2008
RCRA Corrective Action	Percentage of high priority RCRA facilities with human exposures to toxins controlled using 2005 baseline.	Establishing Baseline	FY 2006
	Percentage of high priority RCRA facilities with toxic releases to groundwater controlled using 2005 baseline.	Establishing Baseline	FY 2006
	Number of final remedy components constructed at RCRA Corrective Action facilities per federal, state, and private sector cost.	Collecting Data	FY 2007

NOTES

1 Statutory authorities can be found in the FY 2005 Annual Performance Plan and Congressional Justification, www.epa.gov/ocfopage/budget/2005/2005ap/goal3.pdf.

2 General information for the revitalization program is found at www.epa.gov/oswer/landrevitalization/index.htm.

3 General information for the Resource Conservation Challenge is found at www.epa.gov/epaoswer/osw/conserve/index.htm.

4 Memorandum from Cliff Rothenstein, Director, EPA Office of Underground Storage Tanks to Underground Storage Tanks/Leaking Underground Storage Tanks Division Directors in EPA Regions 1-10, June 2, 2005, "FY 2005 Semi Annual Mid-Year Activity Report."

5 Preliminary end-of-year data provided by EPA's Office of Underground Storage Tanks, November 9, 2005.

6 General information for EPA's municipal solid waste program is found at http://www.epa.gov/epaoswer/non-hw/muncpl/facts.htm.

7 Preliminary end-of-year data provided by EPA's Office of Underground Storage Tanks, November 9, 2005.

8 Memorandum from Cliff Rothenstein, Director, EPA Office of Underground Storage Tanks to Underground Storage Tanks/Leaking Underground Storage Tanks Division Directors in EPA Regions 1-10, June 2, 2005, "FY 2005 Semi Annual Mid-Year Activity Report."