

PROTECTING AND RESTORING LAND

OSWER FY 11 ACCOMPLISHMENTS REPORT



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Message from the Assistant Administrator for the Office of Solid Waste and Emergency Response

I am pleased to present the Office of Solid Waste and Emergency Response's (OSWER) Fiscal Year 2011 (FY11) Accomplishments Report. OSWER, in partnership with other federal agencies, states, tribes, local government, and communities strives to preserve land and clean up communities to create a safer environment for all Americans. Wastes on land can migrate to the air, groundwater and surface water, contaminating drinking water supplies, causing acute illness or chronic diseases, and threatening human health and ecosystems in urban, rural, and suburban areas. It can also stymie economic opportunities on and adjacent to contaminated properties. The attached report summarizes OSWER's significant achievements in FY11 and our progress in meeting our 32 annual performance measures under the EPA's Strategic Plan. It focuses on three facets of our work: preserving land, cleaning up and restoring land, and responding to emergencies.

Preserving Land

In FY11, OSWER met all of its commitments in our hazardous waste, petroleum, and oil spill prevention programs. Through these efforts we ensure proper management of hazardous waste and petroleum products, and help prevent and prepare for oil spills, chemical accidents, and other emergencies to protect the health of communities. OSWER currently oversees and manages, with the states, permits for 10,000 hazardous waste units at 2,466 facilities and sets standards for approximately 590,000 federally-regulated underground storage tanks in order to prevent potentially dangerous releases. In FY11 confirmed releases from underground storage tanks fell 6%. Since 2007 the number of releases has fallen 21%. OSWER and other Agency programs conduct prevention, preparedness, compliance assistance, and enforcement activities associated with more than 640,000 non-transportation related oil storage facilities through its spill prevention program (SPCC) and 13,000 Risk Management Program (RMP) facilities which handle highly toxic and flammable chemicals. In FY11, although the SPCC universe is large and self-implementing, the number of SPCC facilities brought into compliance increased by 9%.

In FY11 OSWER transitioned to a sustainable materials management (SMM) framework to encourage approaches that consider the human health and environmental impacts associated with the full life cycle of materials. In FY11, we announced, together with the General Services Administration and the White House Council on Environmental Quality, a new National Strategy for Electronics Stewardship. Already, three major electronics manufacturers – Dell, Sony, and Sprint – have made commitments to increase the use of third party certified electronics recycling, to ensure safe recycling of electronics.

In FY11, OSWER proposed revisions to the Definition of Solid Waste rule to foster private sector engineering solutions to the recycling of hazardous waste and a rigorous transparent system for ensuring such recycling is protective of public health and the environment.

Restoring Land

OSWER has made substantial progress restoring the land. OSWER's land cleanup programs track over 500,000 sites and 22 million acres; this translates to almost 22% of all developed land in the United States. In FY11 the Superfund and Brownfields Programs exceeded their site assessment targets providing the community with valuable information regarding the environmental condition of sites that provides certainty that sets the stage for cleaning up and redeveloping contaminated properties. The RCRA Corrective Action and Superfund Programs addressed any unacceptable exposures and eliminated acute risks at approximately 200 sites, while continuing to pursue long-term permanent cleanups. The Brownfields Program's funding for cleanup and redevelopment activities, working in partnership with local and state governments, local communities and the

private sector, leveraged \$2.1 billion and 6,447 jobs. As of FY11, OSWER and its partners made over 2.1 million acres (over 417,000 sites) available for communities to reclaim for ecological, recreational, commercial, residential and other purposes. If a property is cleaned up and revitalized, the reuse may result in new income to the community in the form of taxes, jobs to local residents, increases to the values of properties nearby cleaned up sites, or it may provide recreational or other services to make the community a better place to live.

The positive impact of these actions can be seen in communities across the country. For example, in June 2011 work commenced to dredge and dispose of sediment contaminated with polychlorinated biphenyls (PCBs) in the Upper Hudson River creating an estimated 500 jobs. A Brownfields cleanup project funded in FY11 at a former gas manufacturing plant in Ohio will be redeveloped as an office hotel and retail complex that will employ over 1,000 people.

Responding to Emergencies

Every year, more than 20,000 emergencies involving the release (or threatened release) of oil and hazardous substances are reported in the United States. Our first priority during these emergencies is to eliminate any danger to the public. OSWER's role is a fundamental part of the national response system and is heavily relied upon by all levels of government to deal with any environmental emergency. OSWER completed or oversaw the completion of more than 400 removal actions in FY11. These cleanups were of varying complexity and contained a wide range of contaminants that posed a threat to human health and the environment. OSWER responded to several nationally significant incidents, including a category F-5 tornado in Joplin, Missouri and the Yellowstone River Oil Spill.

Engaging the Community and Working for Environmental Justice

As OSWER and its partners produced these outcomes, we strove to be transparent and deliver information that communities could use to participate meaningfully in the decision-making process. For example, OSWER established pilot projects in each region to provide technical information about the cleanup of contaminated sites using a simplified color coding approach that all parts of the community can understand and use. In FY11, to accompany the proposed Definition of Solid Waste Rule, OSWER released the first complete environmental justice analysis evaluating a proposed rulemaking's specific impact on low-income and minority communities. Improving a community's ability to make decisions that affects its environment is at the heart of OSWER's community-centered work.

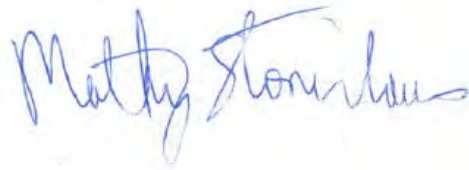
Challenges

While OSWER has made progress over the past year, challenges still lie ahead. In FY11 OSWER did not meet its goal to clean up 12,250 leaking underground storage tanks (LUST) nor did we meet our target for 104 final remedial decisions at federal facility superfund sites. OSWER is working with states to target reduction to the cleanup backlog in the LUST program through efforts such as expedited site assessments, remedy optimization, and exploring financing options. Also, meeting the inspection targets for SPCC facilities and facilities required to prepare a risk management plan (RMP) or a facility response plan (FRP) will be a challenge. OSWER is undertaking an evaluation of the direction of our Oil Spill Prevention Preparedness and Response Program to focus inspections of the SPCC and FRP facilities on those that are higher risk.

EPA's FY12 budget and the FY13 budget proposal reflect a government-wide effort to reduce spending and find cost savings. Funding for a number of the OSWER programs has been reduced making it more difficult to attain our performance targets. For example, the Superfund Remedial program is taking significant cuts in FY12 and potentially in FY13. These budget reductions will have an impact on program performance, reducing the number of site assessments, site characterizations, remedial designs, remedial actions and post-construction operations

carried out. To help manage the reduction, we are pursuing program efficiencies through the Integrated Cleanup Initiative, such as adopting new contracting practices; optimizing site investigation, design and construction practices; and conducting pilots to explore cost-effective options for accelerating projects and improving the way projects are managed.

I am proud of OSWER's committed and skilled work force and our accomplishments in FY11. There is still much to do but through continued collaboration with other federal agencies, states, tribes and communities and the private sector, we can embrace these challenges and put our energy and expertise to improve human health, protect and restore land, and create economic opportunities for all Americans.

A handwritten signature in blue ink that reads "Marty Stouffer". The signature is written in a cursive style with a large, stylized 'M' and 'S'.

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OVERVIEW OF THE DOCUMENT

This report summarizes the Office of Solid Waste and Emergency Response's (OSWER) significant accomplishments in FY11 and our progress in meeting our 32 annual performance measures under the Environmental Protection Agency (EPA) strategic plan. This report will replace two reports developed in OSWER for FY10: the OSWER End of Year Report and the OSWER Cross Program Revitalization Measures Report. This report is a key deliverable under EPA's Integrated Cleanup Initiative.

Section I, Preserve Land, describes EPA's continued successes in preventing future environmental contamination and protecting the health of communities by considering the human health and environmental impacts associated with the full life cycle of materials. The section also describes how EPA programs and supporting enforcement activities ensure appropriate management of generated wastes and petroleum products, and emergency preparedness and planning.

Section II, Restore Land, describes how EPA is making strides in assessing and cleaning up contaminated sites to maintain or put them back into productive use. The section demonstrates how EPA is using the relevant tools available in each of the cleanup programs, including enforcement, to better leverage resources that are available to address needs at individual sites.

Section III, Responding to Emergencies, describes how EPA helps respond to environmental emergencies.

WHO ARE WE?

The EPA and its state, tribal and local government partners strive to clean up communities to create a safer environment for all Americans. 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.

OSWER manages and implements EPA's solid and hazardous waste, land cleanup, and emergency response programs through its headquarters and regional offices. OSWER administers EPA's programs whose objectives are:

- Protect public health and the environment by cleaning up the nation's most toxic sites.
- Conserve resources and prevent land contamination by reducing waste generation, increasing recycling, and ensuring proper management of waste and petroleum products.
- Support sustainable, resilient, and livable communities by working with local, state, tribal, and federal partners to promote redevelopment of contaminated areas and emergency preparedness and recovery planning.
- Respond to releases of contaminants, as well as cleanup and restore polluted sites, through emergency response programs.

I. PRESERVE LAND

A central mission of EPA is to conserve resources and prevent land contamination by:

- Reducing waste generation;
- Increasing secondary materials reuse and recycling;
- Ensuring proper management of waste and petroleum products; and
- Reducing chemical risks and releases.

This section will review our programs, including enforcement efforts as appropriate, and demonstrate how they have achieved significant strides in preserving land and, preventing releases to the environment. This section reviews EPA's programs in four areas: Advancing Resource Conservation; Advancing Responsible Management of Hazardous Waste; Preventing Petroleum Releases; and Reducing Chemical Risks and Releases.

TABLE 1. OSWER PREVENTION & PREPAREDNESS PROGRAMS

RCRA Solid Waste Program The Resource Conservation and Recovery Act (RCRA) solid waste program encourages states to develop comprehensive plans to manage nonhazardous industrial solid waste and municipal solid waste, sets criteria for municipal solid waste landfills and other solid waste disposal facilities, and prohibits the open dumping of solid waste. This program is also looking for more sustainable ways to manage our materials, prolonging the life of materials as usable commodities for as long as possible.

RCRA Hazardous Waste Program The RCRA Hazardous Waste program issues comprehensive, national regulations define solid and hazardous wastes, and imposes strict standards on anyone who generates, recycles, transports, treats, stores or disposes of hazardous waste. This program also monitors the movement of hazardous waste in and out of U.S. borders and works to ensure the waste that is exported is properly recycled or disposed of.

UST Program The Underground Storage Tank (UST) program works with state, tribal and inter-agency partners to set and implement standards to prevent and detect releases from USTs, thereby reducing cleanup costs while protecting human health and the environment.

The **Oil Spill Program** protects U.S. waters by preventing, preparing for and responding to oil spills. Section 311 of the Clean Water Act and the Oil Pollution Act of 1990 provide EPA with the authority to establish a regulatory program for preventing, preparing for and responding to oil spills that occur in navigable waters of the United States.

The **EPA Chemical Emergency Preparedness and Prevention Program** is the national regulatory framework to prevent, prepare for and respond to catastrophic accidental chemical releases at industrial facilities throughout the United States.

HOW MANY FACILITIES ARE ADDRESSED BY OSWER PREVENTION PROGRAMS?

EPA regulates and/or oversees facilities across the United States. For example,

- ◆ To protect the health of the estimated three million people living within a mile of hazardous waste management facilities, EPA and states oversee and manage Resource Conservation and Recovery Act permits for 10,000 hazardous waste units at 2,466 facilities.
- ◆ Across the United States there are approximately 590,000 federally-regulated Underground Storage Tanks at 213,000 sites.
- ◆ EPA has identified approximately 13,000 Risk Management Program facilities nationwide. These facilities represent the largest identified stockpiles of highly toxic and flammable industrial chemicals in the United States.
- ◆ EPA estimates that over 640,000 facilities are covered by the Spill Prevention, Control, and Countermeasure rule. Approximately 4,400 of these facilities are required to have Facility Response Plans as a discharge of oil from any of these facilities could cause substantial harm to the environment.

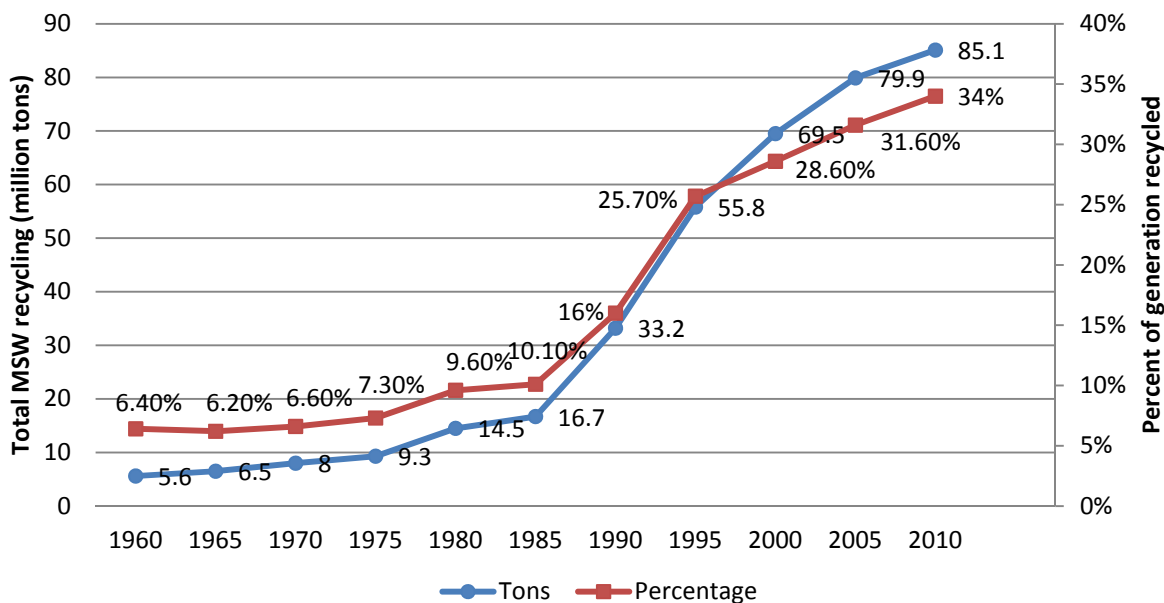
ADVANCING RESOURCE CONSERVATION

What is it?

Land is one of America’s most valuable resources. The Resource Conservation and Recovery Act (RCRA) calls for the conservation of valuable materials and energy resources. To that end, EPA has developed tools and programs to implement RCRA that promote resource conservation, specifically waste reduction and recycling. For example, EPA developed tools to help consumers and industry calculate the benefits of recycling, such as recycling one aluminum soda can saves the energy equivalent of having a CFL light bulb on for 20 hours.¹ Accessible tools that quantify these savings help the government and businesses calculate the benefits (environmental and financial) of resource conservation.

Figure 1 shows the total tons recycled and the recycling rate since 1960. Over the past five years, the recycling rate has not changed significantly. In 2010, the U.S. recycled and composted 85 million tons of municipal solid waste (MSW). This provides an annual benefit of 186 Million Metric Tons of Carbon Dioxide Equivalents (MMTCO₂e) avoided, comparable to the annual greenhouse gas emissions from almost 36 million passenger vehicles. To date, the average American recycles or composts one-third of the waste generated each day.

**Figure 1. MSW Recycling
1960-2010**



In FY11, EPA transitioned from a waste and end-of-life approach to a sustainable materials management (SMM) framework. This framework considers the human health and environmental impacts associated with the full life cycle of materials – from the amount and toxicity of raw materials extraction, through transportation, processing, manufacturing, use, re-use, recycling and disposal. In FY11, EPA developed targeted initiatives involving stakeholders who expressed a desire to make environmental commitments and focused on materials where SMM will have an immediate, measurable impact. The initiatives are: 1) federal green challenge to reform government purchasing practices in an environmentally friendly manner; 2) sustainable food management to help capture and prevent food from being disposed in landfills; and 3) safe handling of used

¹ Calculated in iWarm (epa.gov/iwarm)

electronics, primarily by increasing the amount of used electronics managed by accredited third party electronics recyclers. EPA targeted working with federal agencies in its Federal Green Challenge, due to the government’s purchasing power and the successful Federal Green Challenge that took place on a regional basis in the western regions over the past two years. Furthermore, EPA chose to focus on food waste as another initiative, because 34 million tons of food waste is generated each year by Americans and more than 97 percent of the waste goes to landfills, instead of being donated or composted.




Why is EPA doing this?




EPA’s commitment to the environment includes preserving our nation’s natural resources—including fossil fuels, minerals, precious metals and other renewable and non-renewable resources. Conserving these materials requires attention at every step of the manufacturing process to prevent the unnecessary use of materials, decrease the use of toxins and prevent materials from going to landfills. Some projections are that between 2000 and 2050, our global population will grow 50 percent, economic activity will grow 500 percent, and energy and materials use will grow 300 percent.² On the front end, such a significant increase will greatly stress our resources as we strive to meet the associated demand for additional goods and services. On the back end, the amount of waste created could increase significantly as well. Integrating SMM into the business practices of our stakeholders, on a broad, national level is the only way for the U.S. to conserve its own natural resources and stay competitive globally.

Accomplishments

Progress Towards Meeting Strategic Plan

EPA has three measures for advancing resource conservation. FY11 results will be available in December 2012 for two of the measures. The third target, priority chemicals reduced from the manufacturing life cycle, was met.

Status	Measure	Target	FY11 Value
	Increase in percentage of coal combustion ash that is beneficially used instead of disposed	1.4%	NA
	Pounds of municipal solid waste reduced, reused or recycled	21	NA
	Number of pounds of priority chemicals reduced from all phases of the manufacturing life cycle through source reduction and/or recycling	2 million	12.25 million

Legend:  Data Unavailable  Goal Not Met  Goal Met

Creating a new national strategy for electronics stewardship

On July 20, 2011, EPA, General Services Administration and the White House Council on Environmental Quality announced a new National Strategy for Electronics Stewardship. The Strategy details a comprehensive set of actions to be taken by federal agencies to advance responsible electronic design, purchasing, management and recycling. Every year, Americans generate almost 2.5 million tons of used electronics, which are made from valuable resources, such as precious metals and rare earth materials, as well as plastic and glass. Under the Strategy, EPA is working with industry to encourage businesses and consumers to use third-party certified electronics recyclers, and for recyclers to become certified. Certified recyclers are regularly audited to ensure

² World Resources Institute, *The Weight of Nations: Material Outflows from Industrial Economies* (Washington, DC, 2000).

that electronics are recycled in a way that is protective of human health and the environment. Three major electronics manufacturers – Dell, Sony, and Sprint – made commitments to increase the use of third party certified electronics recycling, to ensure safe recycling of electronics. EPA is also hoping to minimize harm created by mismanagement of U.S. exports of e-waste and improve safe handling of used electronics in developing countries.

ADVANCING HAZARDOUS WASTE MANAGEMENT

What is it?

Hazardous waste is waste that is dangerous or potentially harmful to our health or the environment. It can be discarded commercial products, like cleaning fluids or pesticides, or the by-products of manufacturing processes.

Comprehensive, national regulations define hazardous waste, and impose strict standards on anyone who generates, recycles, transports, treats, stores or disposes of hazardous waste. Some key aspects of the hazardous waste management program include: controlling transportation of hazardous waste through a manifest system; ensuring the safe treatment, storage and disposal of hazardous wastes by establishing specific requirements/permits that must be followed when managing those wastes; and inspecting facilities to ensure compliance with regulations. This comprehensive regulatory framework is implemented in partnership with states to prevent exposure to hazardous waste and contamination. (The next section, Restoring Land, will describe how the Superfund program's liability provisions also act as a powerful deterrent to mismanaging hazardous waste.)

Permits for the treatment, storage or disposal of hazardous wastes are issued by authorized states or by EPA regional offices. The national RCRA program provides leadership for meeting our legal obligation to:

- ◆ Renew all permits at least every 10 years,
- ◆ Maintain permits by modifying them to address changes in operations, and
- ◆ Monitor facility performance to ensure that permits continue to protect people and ecosystems from harmful exposures to hazardous pollutants.

The RCRA program requires facility owners or operators to demonstrate that they have financial mechanisms in place to cover the closure, post-closure and clean-up activities. This is critical to protecting taxpayer dollars by ensuring that money will be available to properly close, cleanup and monitor the site if, for example, the facility is abandoned or the owner goes bankrupt.

Advancing Waste Management in Indian Country

In FY11, EPA continued to assist tribes in developing sustainable waste management programs in Indian Country through integrated waste management plans (IWMPs); supporting the cleanup, closure, or upgrading of open dumps in Indian country and other tribal lands; and collaborating with the Indian Health Service and EPA Regions to complete an inventory of open dumps on tribal lands. We also assisted tribes in developing and implementing hazardous waste management programs. Outreach materials were developed specifically for tribes, such as the Tribal Waste Journal and fact sheets, which can be found on the Waste Management Indian Country Web site (<http://www.epa.gov/wastes/wyl/tribal/index.htm>).

Financial Assurance - Protecting Taxpayer Money

A rulemaking now underway under authority of the Comprehensive Environmental Response, Compensation and Liability Act Section 108(b) seeks to protect taxpayer dollars by requiring protective financial mechanisms for active hard rock mines and mineral processing facilities. The acid rock drainage and other contamination from some mines creates actual or potential threats to human health or ecosystems that has led to their designation as Superfund sites. This regulation will minimize the burden on taxpayers for the cleanup of these sites by providing the financial funding needed should a response be required.

Furthermore, EPA promotes the management of waste in more environmentally beneficial and cost-effective ways. It is important for EPA to strike a balance between recovering valuable materials and preventing loopholes that could lead to unsafe disposal under the guise of recycling. EPA is working to provide regulatory flexibilities designed to encourage hazardous materials recycling with adequate safeguards. In order to protect human health and the environment, EPA must ensure that materials are destined for legitimate recycling.

Why is EPA doing this?

The hazardous waste program protects human health, communities and the environment through enforceable controls; prevents the release of hazardous constituents from generators and management facilities; and provides for its safe management. EPA’s hazardous waste management activities play a key role in supporting U.S. industries and small businesses. By facilitating the safe management of waste, it provides a critical service to the U.S. economy and safeguards valuable drinking water resources by preventing hazardous contaminants from polluting ground water and surface water.




New technologies, waste streams and new Clean Air Act and Clean Water Act regulations have meant that the RCRA program must evolve to address new challenges. Since RCRA was enacted, there has been a wide-ranging expansion in the variety of products and services available to consumers; these advances have led to many new chemicals coming into the market and many new waste streams that must be addressed. Fortunately, there have also been tremendous advances in the science involved with assessing risks from waste (showing, for example, that some chemicals are actually more toxic than previously determined), the technologies for managing waste and the methods for recycling or reusing waste. The challenge for the hazardous waste program is the need to incorporate these advances into the current regulatory structure in a lasting and effective manner.

Accomplishments

Progress Towards Meeting Strategic Plan

EPA has three measures related to waste management in the strategic plan. All three measures were exceeded in FY11.

Status	Measure	Target	FY11 Value
	Number of hazardous waste facilities with new or updated controls.	100	130
	Number of closed, cleaned up or upgraded open dumps in Indian Country or on other tribal lands.	45	82
	Number of tribes covered by an integrated solid waste management plan.	14	17

Legend:  Data Unavailable  Goal Not Met  Goal Met

Carbon sequestration

The efforts across EPA to prevent climate change include carbon sequestration. Geologically sequestering carbon dioxide (CO₂) is a method of preventing greenhouse gases from entering the atmosphere. EPA created a new class of underground injection well to specifically handle the safe injection of carbon dioxide into the ground. EPA proposed excluding this injection from regulation as hazardous waste because it concluded that the management of CO₂ under these conditions does not present a substantial risk to human health or the environment. With the removal of this potential regulatory barrier, EPA is providing industry with the regulatory

certainty needed to promote full-scale deployment of carbon capture and storage projects, while still protecting human health and the environment.

Environmental justice analysis in the rulemaking process

In FY11, to accompany the proposed Definition of Solid Waste Rule, EPA released the first complete environmental justice analysis evaluating a proposed rulemaking's specific impact on low-income and minority communities. EPA involved stakeholders throughout the development process – including holding public roundtable meetings and web conferences for input on the methodology that should be used. In addition, EPA took comment on the analysis when released as part of the proposed rulemaking.

Fewer Superfund sites from our regulated hazardous waste facilities

The RCRA permitting program has been successful in one of its key aims, which is to prevent hazardous waste treatment, storage and disposal (TSD) facilities from turning into Superfund sites due to new contamination from their hazardous waste management activities. A study in 2007, *Analysis of 40 Potential TSDs*, looked at the group of the 40 potential RCRA TSD facilities that were proposed to the Superfund National Priorities list after 1990, to determine whether current (as opposed to legacy) problems at RCRA TSDs pose a burden to Superfund. The report concluded that the contamination associated with the most recent RCRA regulated facilities proposed as Superfund sites primarily occurred before the RCRA requirements were established and began to regulate TSD activities, and that the RCRA regulations worked as intended.

Electronic Exchange of import/export waste notices

In FY11, under the Mexico Border 2012 Plan, EPA successfully exchanged electronic test data with Mexico on hazardous waste exports and imports. This was an important milestone in an overall initiative to develop a new data system for electronic exchange of import/export notices among the U.S./Mexico and Canada. EPA has been a driving force behind a North American electronic data exchange which will soon enable governments to exchange export notice and consent information electronically. This will increase government efficiency, improve data quality, and help the governments provide more timely and coherent information on what crosses our national borders. Additionally, the project will achieve a U.S./Mexico Border 2012 Program milestone to improve the oversight of hazardous waste exports and imports between the two countries.

PREVENTING PETROLEUM RELEASES

Underground Storage Tanks

What is it?

EPA works with state, tribal and inter-agency partners to prevent releases from Underground Storage Tanks (USTs) from occurring, thereby reducing cleanup costs while protecting human health and the environment. The UST Program develops federal regulations governing the program, provides needed funds to state and tribal partners to support their programs and implements the program in Indian country. The UST Program provides important oversight of state and tribal grant funding to ensure performance goals are effectively achieved. In addition, the UST Program provides technical information/guidance, forums for information exchanges and training opportunities to states, tribes and intertribal consortia to encourage program development and/or implementation.³ Providing such guidance and training at the national level is the most efficient and effective approach, since this work can help all states and tribes, without requiring duplicative effort across the country. In addition, EPA provides national guidance for emerging issues, such as the impact of alternative fuels on tank infrastructure and cleanup of higher blend releases.

The states, in turn, are the front-line implementers of the UST program. The states conduct the majority of inspections, enforcement and site-specific compliance assistance. In Indian Country, EPA works closely with tribes to implement the program.

Why is EPA doing this?

Preventing petroleum releases into the environment has been one of the primary goals of the UST program since its inception. The release of gasoline-containing contaminants of concern, such as benzene, methyl-tertiary-butyl-ether (MTBE), alcohols, lead or lead scavengers, can cause potential adverse effects and has significant costs associated with cleaning up these contaminants. Therefore, OSWER and its partners strongly promote compliance with all UST requirements, including the requirements described in the Energy Policy Act of 2005. While OSWER and its partners have made major progress in reducing the number of new releases, thousands of releases are still discovered each year (about 6,000 in FY11). A main cause of releases from USTs is the lack of proper operation and maintenance of UST systems. As of the end of FY11, there were approximately 88,000 open releases still in the cleanup process or waiting to be cleaned up. Given that remediation costs average between \$100,000 and \$400,000 per release (depending on the presence of ground water contamination), a robust prevention program saves resources in the long run.

Rulemaking in Action: Underground Storage Tank Revisions

EPA is proposing revisions to strengthen the 1988 federal UST regulations by increasing emphasis on properly operating and maintaining UST equipment. These revisions will help improve prevention and detection of UST releases, which are one of the leading sources of groundwater contamination. The revisions will also help ensure all USTs in the United States, including those in Indian country, meet the same minimum standards. This is the first time EPA is proposing significant revisions to the federal UST regulations since they were first promulgated in 1988.

³ Refer to <http://www.epa.gov/oust/ustsystem/index.htm>

Oil Spill Program

What is it?

The Oil Spill Program protects U.S. waters by preventing, preparing for and responding to oil spills. Section 311 of the Clean Water Act and the Oil Pollution Act provide EPA with the authority to establish a regulatory

Oil Spill Program

EPA is in working on different products and guidance documents to enhance and improve the national preparedness for oil spills in both inland and coastal zones by incorporating lessons learned from the Enbridge Pipeline and Deepwater Horizon Responses. To help address inland preparedness, EPA is developing an Area Contingency Plan (ACP) Handbook that focuses on statutory requirements and promotes the development of consistency among regional plans. Lessons learned from the Deepwater Horizon Oil Spill Response have resulted in guidance for coastal zone spills, including guidance on waste management, sub-sea dispersant application, and daily dispersant use monitoring.

program for preventing, preparing for and responding to oil spills that occur in navigable waters of the United States. The Oil Pollution Prevention regulations apply to certain non-transportation-related facilities that could discharge oil into navigable waters of the United States. These regulations require each owner or operator of a regulated facility to prepare a Spill Prevention, Control, and Countermeasures (SPCC) Plan addressing the facility's design, operation and maintenance procedures established to prevent oil spills, as well as countermeasures to control, contain, clean up and mitigate the effects of an oil spill that could affect navigable waters. In addition, some facility owners and operators are also required to prepare facility response plans (FRPs) addressing response actions for discharges of oil that present the potential for substantial environmental harm. EPA uses the information in the FRPs to develop Area Contingency Plans (ACPs) under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). EPA conducts oil spill prevention, preparedness, compliance assistance and enforcement activities associated

with more than 640,000 non-transportation-related oil storage facilities through its spill prevention program.

Why is EPA doing this?

Discharges of oil into U.S. waters from facilities often result in environmental damage and financial loss to businesses, and even human injuries and death. They cause losses to governments at all levels. EPA's efforts protect human health from the harm associated with oil discharges. Because states, tribes, and communities may lack the infrastructure and resources to respond to emergencies or to work with oil facilities to prevent accidents from happening in the first place, EPA and the Coast Guard provide a safety net essential to protecting communities.

Preventing Petroleum Releases

More than 30,000 oil discharges and hazardous substance releases occur in the U.S. every year, with a large number of these spills occurring in the inland zone for which EPA has jurisdiction. EPA responds to about 200 spills each year. On average, one spill of greater than 100,000 gallons occurs every month from EPA-regulated oil storage facilities and the inland oil transportation network. For more information, refer to <http://www.epa.gov/oilspill/>.

Accomplishments

Progress Towards Meeting Strategic Plan

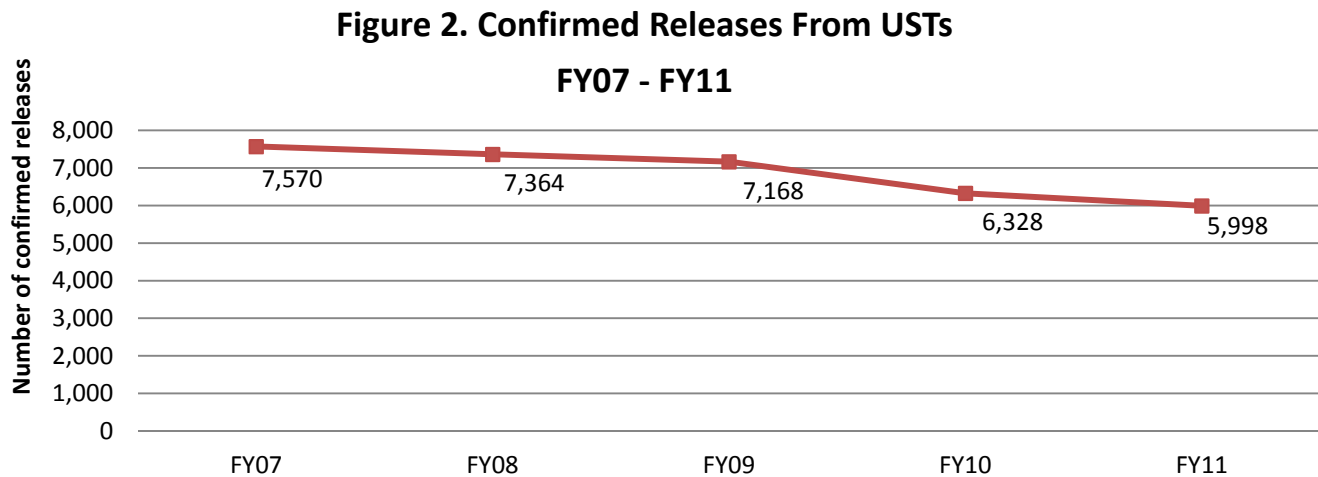
EPA has four measures in the strategic plan for preventing petroleum releases. In FY11, EPA met or exceeded all four targets.

Status	Measure	Target	FY11 Value
●	Percent of all FRP inspected facilities found to be non-compliant which are brought into compliance.	30%	48%
●	Percent of all SPCC inspected facilities found to be non-compliant which are brought into compliance.	30%	45%
●	Reduce the number of confirmed releases at UST facilities to 5% fewer than previous year.	<8,550	5,998
●	Increase the percentage of UST facilities that are in significant operational compliance with both release detection and release prevention requirements by 0.5% over the previous year's target.	66%	71%

Legend: ▲ Data Unavailable ● Goal Not Met ● Goal Met

Releases from underground storage tanks are going down

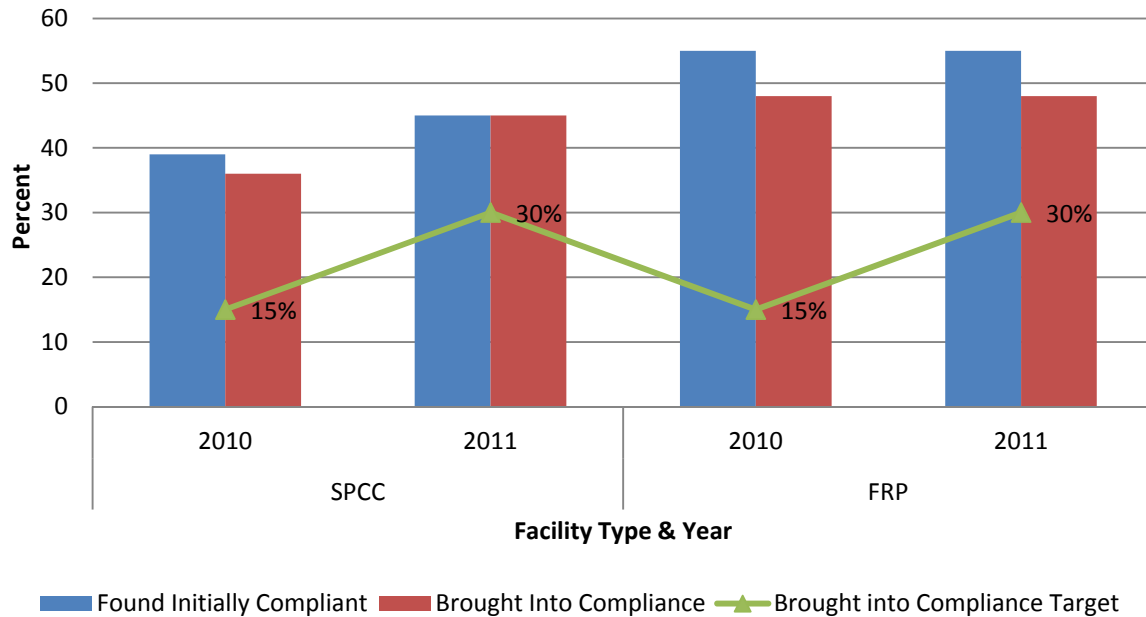
OSWER's goal is to prevent future releases of wastes in the environment. Accidents happen. EPA understands this but proper prevention leads to fewer and fewer releases. For example, the number of confirmed releases from USTs has dropped 21 percent, from 7,570 in FY07 to 5,998 in FY11. The number of active tanks over that period dropped 6 percent, from 629,866 to 590,104. Figure 2 shows the decline in recent years.



Compliance is improving in spill prevention

Making sure facilities that store oil are compliant under EPA’s SPCC and FRP rules is a crucial part in preventing oil spills. The percentage of SPCC facilities found in compliance during their initial inspection is increasing due to EPA outreach activities while the percentage of FRP facilities, which are high risk, found initially compliant with the FRP rule is remaining steady (figure 3). As a result of EPA's inspection efforts, SPCC and FRP facilities that are not initially compliant are being brought into compliance. EPA continues to exceed its yearly targets for bringing facilities into compliance, helping to improve facility oil spill preparedness and prevent oil spills.

**Figure 3. Oil Facility Compliance
FY10 & FY11**



More efficiency in reporting and record-keeping

EPA has put a strong focus on increasing the use of electronic reporting and record-keeping. This leads to more efficient data use, but more importantly, electronic efforts lead to lower costs to industry (small and large) and regulators. In FY11, EPA launched the Emergency Management Portal Oil Database application, which enables users to search for and add facilities, generate reports and store critical information such as inspection data, discharge history and compliance data.

REDUCING CHEMICAL RISKS AND RELEASES

What is it?

EPA's Chemical Emergency Preparedness and Prevention Program is the national regulatory framework to prevent, prepare for and respond to catastrophic accidental chemical releases at industrial facilities throughout the United States. This program includes the Clean Air Act Section 112(r) RMP and the Emergency Planning and Community Right-to-Know Act (EPCRA) program. In addition to the measures taken by facilities to prevent accidents, these programs also collect and share data to assist other stakeholders in preventing and responding to releases of all types, and as such, RMP provides the foundation for community and hazards response planning. Under the Clean Air Act, EPA regulations require that facilities handling more than a threshold quantity of certain extremely hazardous substances implement a risk management program and submit a risk management plan to EPA. The RMP describes the approach the facility is taking to prevent and mitigate chemical accidents. The plan addresses the hazards of the chemicals used by the facility, the potential consequences of worst case and other accidental chemical release scenarios, the facility's five year accident history, the chemical accident prevention program in place at the site and the emergency response program used by the site to minimize the impacts on the public and environment should a chemical release occur. The year 2011 marked the 25th anniversary of EPCRA, a program that has played a significant role in protecting human health and the environment over the last quarter century by providing communities and emergency planners with valuable information on toxic chemical releases in their area.


Why is EPA Doing This?




Accidents at chemical facilities have resulted in injury and death, environmental damage and financial loss. Public demand for chemical release information skyrocketed in the mid-1980s after a deadly cloud of highly toxic pesticide killed thousands of people in Bhopal, India. Shortly thereafter, a serious chemical release at a plant in West Virginia hospitalized 100 individuals. Accidents reported to EPA since FY05 by the current universe of RMP facilities have resulted in approximately 60 worker and public deaths, over 1,300 injuries, nearly 200,000 people sheltered in place and more than \$1.6 billion in on-site and off-site damages. States and communities may lack the strong infrastructure needed to address these emergencies or to prevent them from happening in the first place. Together, the RMPs and EPCRA, establish a structure, within which federal, state, local and tribal partners work together to protect the public, the economy and the environment from chemical risks. They also play an important role in increasing transparency and communication among facilities, governments and communities to facilitate the prevention of accidents when possible and plan for effective emergency response actions when they are necessary.

Accomplishments

Progress Towards Meeting Strategic Plan

EPA has one measure in this area, which was exceeded in FY11. In FY11, EPA exceeded its target for number of risk management plan audits and inspections completed.

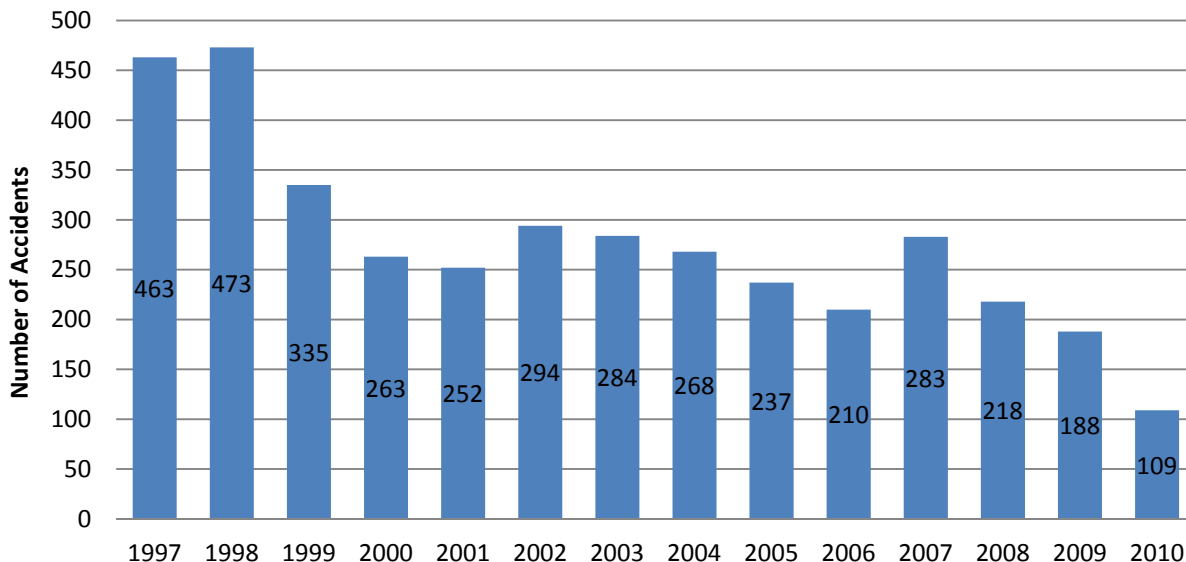
Status	Measure	Target	FY11 Value
	Number of risk management plan audits and inspections completed.	560	630

Legend:  Data Unavailable  Goal Not Met  Goal Met

Accident reports at risk management facilities are decreasing

There has been a significant decrease in accidents reported at RMP facilities since FY96 (figure 4)⁴. Overall accident reductions could be attributed to a number of factors including those actions taken by facilities to prevent spills. EPA has worked to increase inspection activities at high-risk facilities, made it possible to submit RMPs online, and increased the number of RMP inspectors. These activities, along with consistent outreach with regulated communities, advancing technologies, and improved safety systems, have helped to maximize the effectiveness of prevention and preparedness at chemical facilities.

**Figure 4. Accidents by Year at RMP Facilities
FY97 - FY10**



While the RMP program has made progress over the years, challenges remain. Of the approximately 13,000 RMP facilities nationwide, 1,900 facilities have been designated as “high risk” based upon their accident history, extremely large quantity of chemicals on site, or proximity to large residential populations. Since high risk facilities have the potential for causing great damage to the public and environment in the event of an accident, EPA plans to focus our inspections at these facilities to address problems before they become disasters.

⁴ These data are current as of January 23, 2012. The FY10 number may slightly change due to lag in reporting.

II. RESTORING LAND

Accidents, spills, leaks and past improper disposal and handling of hazardous materials and wastes have resulted in tens of thousands of contaminated sites in the United States. Contaminated land can threaten human health and the environment, and potentially hamper economic growth and the vitality of local communities. While EPA is not involved in all contaminated areas, EPA tracks over 500,000 sites and 22 million acres across the 50 states, the District of Columbia, and U.S. territories. EPA and its state and tribal partners work to address contamination at these sites and restore them for productive use. It is a goal of EPA to work with communities to ensure that they can become involved with decisions and have a say in how contaminated areas are reused. Section I described EPA's effort to prevent releases and contamination. This section will review our programs and describe our progress in restoring land that has been contaminated.

WHAT ARE THE LAND CLEANUP PROGRAMS?

Sites are often described and categorized based on the level and type of contamination and the regulations under which they are monitored and cleaned up. Some contaminated sites pose little risk to human health and the environment, because the level of contamination is low, as is the chance of exposure to toxic or hazardous contaminants. Other contaminated sites are of greater concern because of the chemicals that may be present and their propensity to persist in or move through the environment, exposing humans or the plants and animals in the ecosystem to hazards. These sites must be carefully managed to prevent contamination from causing harm to humans, wildlife or ecological systems, both on and off site.

EPA has six major land cleanup programs that address contaminated sites (See Table 2). These programs are the Superfund Remedial and Federal Facilities Programs, Superfund Removal Program, the Brownfields Program, the RCRA Corrective Action (CA) Program, the Leaking Underground Storage Tank (LUST) Program and the Polychlorinated Biphenyls (PCBs) Cleanup Program.

Achieving Results on the Ground: American Recovery and Reinvestment Act (ARRA)

In FY 11:

- A Brownfield site in the Port of Monroe, Michigan received \$150,000 in ARRA funds and leveraged a \$2.25 million loan from local developers.
- Montana is using Recovery Act funds to clean up contamination from leaking underground storage tanks at the former Pepco facility in Roundup, Montana.
- ARRA funds started the construction for groundwater cleanup activities at a Superfund site in Huffs Church, PA. Approximately 2,530 feet of the total 6,000 feet has been completed. Soil removal will continue with approximately \$2.57 million of the \$6.478 million in Recovery Act funds expended.
- The Mattapan Community Health Center received a Recovery Act sub-grant to fund environmental cleanup activities on a site for their new LEED® certified building. The Boston Redevelopment Authority will supplement its existing Brownfields Cleanup Revolving Loan Fund to remove hazardous materials, demolish multiple buildings, and remediate soil and groundwater. The new site will create over 60 new construction jobs, 45 retail jobs, and 20 new permanent positions and is expected to open in 2012.

TABLE 2. OSWER CLEANUP PROGRAMS

Superfund Remedial Programs The Superfund Remedial and Federal Facilities Program addresses long-term risks to human health and the environment resulting from releases of hazardous substances at Superfund sites representing the nation's highest priority sites. Superfund sites are found in hundreds of communities and can encompass very large land areas. The Federal Facilities Program works with federal entities to ensure fast and effective cleanup at federally owned sites, and facilitates partnerships between the other federal agencies and the surrounding communities. The Superfund Remedial Program works on non-federally owned sites.

Superfund Emergency Response and Removal Program The Superfund Removal Program functions as the backbone federal response to many contamination events; providing response support to state, local, tribal and potentially responsible parties when their response capabilities are exceeded; and managing risks to human health, the environment, and the economic viability of communities. Removal actions are typically immediate short-term responses intended to protect people from threats posed by hazardous waste sites.⁵

Brownfields Program The Brownfields Program addresses environmental site assessment and cleanup of abandoned and potentially contaminated sites that are not Superfund sites, through grants, cooperative agreements, and technical assistance to communities, states, and tribes. Funding to states and tribes helps develop and enhance their voluntary cleanup programs. In addition, the program provides environmental workforce development and job training funding to recruit, train and place local, unemployed residents of solid and hazardous waste-affected communities with the skills needed to secure full-time employment in the environmental field.

RCRA Corrective Action Program An essential element of EPA's hazardous waste management program is the statutory requirement that facilities managing hazardous wastes must clean up releases of hazardous constituents that could adversely impact human health and the environment. A cleanup under RCRA is referred to as Corrective Action (CA). The RCRA Program directly implements the CA program in 13 states and territories, and performs as lead regulator at an increasingly significant number of facilities undergoing CAs in 42 states across the country that are authorized for the RCRA CA Program. The CA program is critical to preventing Superfund sites and the associated resources and expenditures.

PCBs Cleanup Program The national Polychlorinated Biphenyls (PCBs) cleanup and disposal program is implemented by EPA, and works closely with other EPA cleanup programs and state and local governments to ensure cleanups are conducted efficiently and that human health and the environment are protected. Prior to the Toxic Substances Control Act (TSCA), PCBs were widely used across many commercial industries and significant PCB contamination resulted from spills, releases and from products.

LUST Program The Leaking Underground Storage Tank (LUST) program works with state and tribal partners to clean up releases from LUST sites, many of which impact ground water resources. Cleaning up LUSTs is a key part of protecting our environment. Even a small amount of petroleum released from an underground tank can contaminate groundwater, the drinking water source for nearly half of all Americans. States are the primary implementing agencies. EPA provides resources to support the infrastructure of state LUST programs so that private and state resources can directly finance the field work necessary to address contamination at federally-regulated tank releases. EPA also provides regulations, guidance and policy to support cleanup of tank releases.

⁵ This program is a part of EPA's cleanup and EPA's emergency response functions. An additional description of this program's responsibilities is described in section III.

HOW MUCH LAND ARE THE EPA LAND CLEANUP PROGRAMS TRACKING?

As indicated earlier, EPA tracks over 500,000 sites representing about 22 million acres. The number of sites and acres for which EPA is involved in by program is provided in figures 5 & 6. These figures show the universe of sites under EPA’s purview. The number of sites and acres tracked in the universe changes over time as more sites are identified and/or brought under the jurisdiction of the different programs (e.g., when a site receives a Brownfields’ grant). The FY11 universe translates to almost 22 percent of all developed land in the United States.⁶

Figure 5. Sites by Program

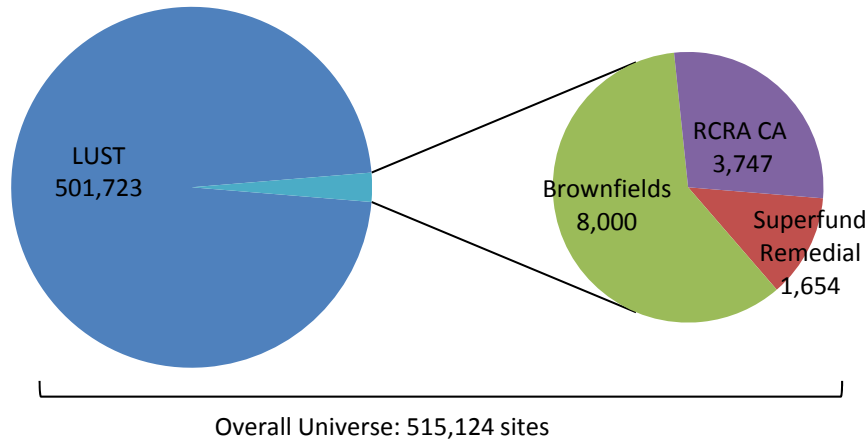
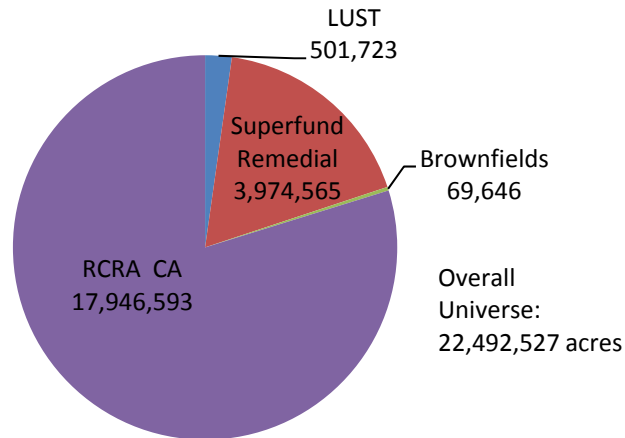


Figure 6. Acreage by Program



There are many other sites that are tracked only at the state and local level. The full scope of the land in the U.S. that is currently contaminated and in need of assessment and cleanup is not shown in figures 5 & 6. For example, the 2004 Government Accountability Office report entitled *Brownfield Redevelopment: Stakeholders*

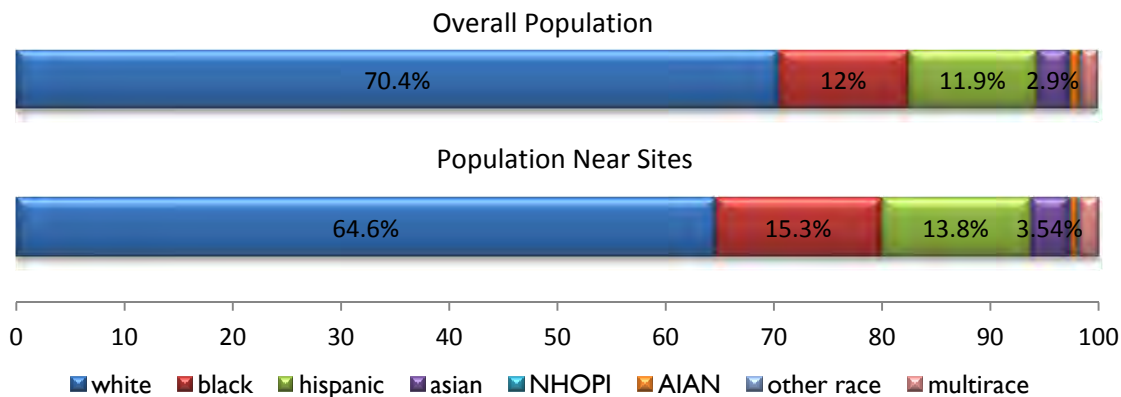
⁶ Developed land accounts for 102.5 million acres or 5 percent of total land in the U.S. EPA’s 2008 Report on the Environment. Chapter 4- Exhibit 4-2.

Report that EPA’s Program Helps to Redevelop Sites, but Additional Measures Could Complement Agency Efforts states that there were about 450,000 to 1 million brownfields.

WHO LIVES NEAR CONTAMINATED SITES?

Recently EPA conducted a population assessment of communities living within a mile of more than 5,300 Superfund and RCRA CA sites across the country. The assessment revealed that populations near sites include people of all races and all income brackets. The very young and the very old and adults with and without college educations are present in nearly the same proportions as they are in the population at large. At the same time, the assessment found that communities near these sites include a disproportionate number of poor and racial and ethnic minority people, who may have fewer resources with which to address concerns about their health and environment (figure 7).

Figure 7. Populations near Superfund and RCRA Corrective Action sites



In addition to describing the demographic characteristics near sites, the assessment suggested that communities near sites can be thought of as more vulnerable to potential risks from contamination because many of these communities are near multiple environmental stressors. For example, over 30 percent of the areas examined were near more than one Superfund or RCRA CA contaminated site, 67 percent of the areas also had a known source of air pollutants nearby and over 80 percent were urban areas commonly associated with high levels of traffic and industry. Understanding these vulnerabilities, EPA provides technical assistance to help communities understand the risk from contaminated lands as well as the benefits of cleanup.

ADDRESSING OUR CLEANUP PROGRAMS IN AN INTEGRATED WAY

Integrated Cleanup Initiative

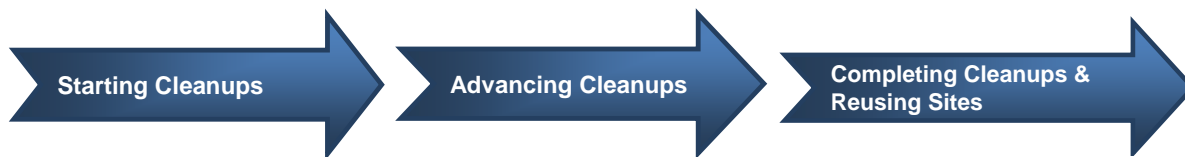
In an effort to improve the accountability, transparency, and effectiveness of the EPA’s cleanup programs, in FY10 the EPA initiated a multi-year strategy called the Integrated Cleanup Initiative (ICI), to integrate and leverage the Agency’s land cleanup authorities to address a greater number of sites, accelerate cleanups where possible, and put those sites back into productive use while protecting human health and the environment. EPA is also focusing on enforcement activities and continues to seek accountability from those responsible for cleaning up contaminated sites. Since the ICI was launched, the EPA’s cleanup and enforcement programs have been addressing the actions identified in the ICI Implementation Plan to put into action what we learn and engrain the components of ICI into the way we function day to day. One example is the pilot study conducted at Ellenville Scrap Iron and Metal site in New York, which streamlined the cleanup remedy design and construction

process reducing the duration of work compared with traditional approaches by as many as two years. EPA plans to apply the lessons learned at Ellenville and other ICI pilots to the broader cleanup program.

As identified in the ICI, the three stages of the cleanup process are used in this report to describe our activities and progress (figure 8). The cleanup continuum is:

- ◆ Starting cleanups – focusing on site identification and assessment activities in the early stages of the cleanup continuum.
- ◆ Advancing cleanups – emphasizing coordination activities and activities intended to assure that unacceptable human exposures are eliminated as soon as possible while site cleanup progresses.
- ◆ Completing Cleanups & Reusing sites – achieving the goal of providing long-term human health and environmental protection, and promoting land revitalization to return sites to communities for their intended use.

Figure 8. The Cleanup Continuum



STARTING CLEANUPS

What is it?

EPA’s involvement in the site investigation and cleanup process begins with notification of potential contamination. EPA can be notified by states, tribes, community members, other federal agencies, or other sources of a potential hazardous waste site or incident. EPA, the implementing state, tribe, local government or regulated entity assesses releases at sites to determine whether there is in fact a release and, if so, the extent of the contamination. These assessments help eliminate the uncertainty associated with potential or actual contamination at a property. If contamination is found, a series of progressively more complex assessments may be conducted to determine whether cleanup is needed and design appropriate cleanup and reuse strategies for the site. Additionally a removal action may be completed to reduce immediate threat to human health or the environment. A removal may occur along any part of the cleanup continuum. For more information on the removal program see the next section, Responding to Emergencies and Reducing Risks.

Why is EPA doing this?

Assessment activities under all six of the land cleanup programs are intended to determine the extent and degree of contamination at these sites, to resolve the degree of uncertainty regarding any contamination and to determine the need for additional environmental work. This represents an important milestone in the overall cleanup process.

Accomplishments

Progress Towards Meeting Strategic Plan

EPA has two measures to gauge the progress in completing assessment activities. One measure is for the Superfund program and the other is for the Brownfields program. In FY11, both assessment measures exceeded their targeted levels.

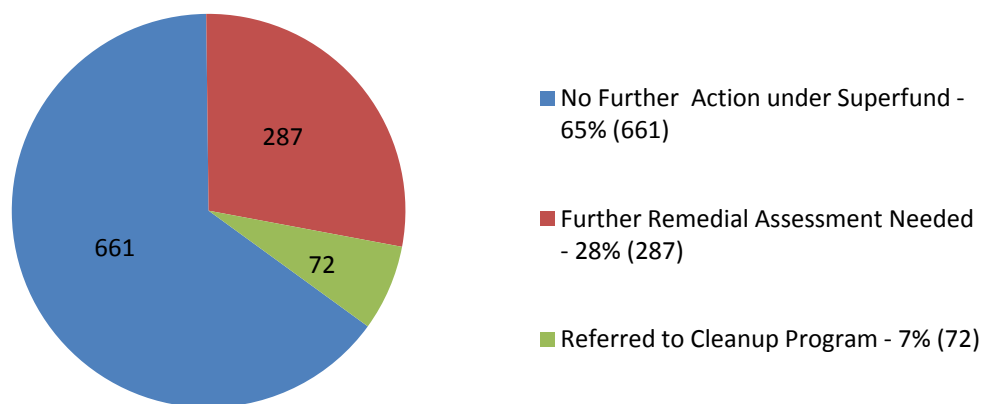
Status	Measure	Target	FY11 Value
●	Number of Superfund remedial site assessments completed	900	1,020
●	Brownfield properties assessed	1,000	1,784

Legend: ▲ Data Unavailable ● Goal Not Met ● Goal Met

Assessment may result in a positive impact early in the cleanup continuum

A significant percentage of sites require no further action after the site assessment process is complete. By making this determination early in the cleanup process, there is great value derived from the site assessment process. If no contamination is found, uncertainty regarding its environmental condition is removed and the community or facility is in a better position to move forward with its plan for reuse. Many of the sites assessed for potential inclusion on the National Priorities List (NPL) under Superfund do not require cleanup. As shown in figure 9, 65 percent of the Superfund remedial assessments completed in FY11 determined that no further federal action is needed under the Superfund program. Twenty-eight percent indicated a need to collect more information before a final assessment decision could be made. The remaining seven percent were referred to a cleanup program for further attention, e.g., the NPL, state environmental cleanup programs or EPA's removal program.

Figure 9. Results Superfund Site Assessments Completed in FY11



Area-Wide Planning

In FY10, EPA launched the Brownfields Area-Wide Planning Program (AWP) to strengthen community involvement and promote better health and economic redevelopment on a broader scale. EPA launched 23 enhanced Brownfields projects that will help communities develop plans to integrate the cleanup and reuse of brownfields sites in larger, coordinated efforts to revitalize their neighborhoods. In FY11, these communities have been using EPA resources successfully to generate community input, evaluate existing environmental conditions, local market potential, and support area infrastructure. As an example, Ranson, WV received an AWP pilot grant to identify reuse strategies at brownfields sites within the Commerce Corridor between Ranson and Charles Town, WV. The sites investigated in the AWP pilot were the result of a previous assessment grant and six assessments, which ultimately led to cleanup of those brownfields. Furthermore, EPA has been coordinating with other Federal and state agencies to leverage technical assistance and resources. For example, the Department of Housing and Urban Development-Department of Transportation-EPA Partnership is in the process of incorporating criteria into their grant funding competitions that will give some preference to applicants who are already receiving related resources from the partner Agencies.

ADVANCING CLEANUPS

What is it?

After the site has been assessed and it is determined that cleanup is required, there is a substantial amount of progress and protection of human health and the environment that occurs before the cleanup is completed. A cleanup remedy may contain multiple actions depending on the nature of the remedy selected, and cover discrete areas of contamination such as ground water, sediments, or soil. Numerous activities take place to address the contamination, reduce risk to human health and the environment, and move the site along the cleanup continuum to return the site to use or reuse. These include engaging local communities in decision-making, and selecting and designing the remedy. The proposed continued use or anticipated future use of sites plays an important role in the cleanup process. EPA works collaboratively with other federal agencies, states, tribes, local governments, communities and the regulated entities to integrate appropriate future use opportunities into cleanup remedy options. Additionally, EPA uses permits and enforcement authorities to implement RCRA CA. Similarly, Superfund uses enforcement authorities to obtain commitments from Potentially Responsible Parties (PRPs) to perform or pay for cleanup actions at Superfund sites, and ensure that PRPs comply with these commitments and complete cleanups in a timely and protective manner. This ensures that limited Superfund resources are preserved for sites with no viable or liable PRPs.

The length and complexity of cleanups across cleanup programs can vary widely, and some sites can take a significant amount of time to clean up. Many of our Superfund sites and RCRA CA facilities are highly contaminated, technically challenging, and cover large areas. For example, historic mining practices in the Coeur d'Alene River Basin in Idaho generated an estimated 70 to 100 million tons of heavy metal laden mining waste that has spread over approximately 900,000 acres throughout regional streams, rivers, flood plains, and lakes. Over 5,000 affected properties, including homes, schools, and recreational areas, have been cleaned up to date and hundreds more are cleaned up every year. Consequently, these sites can require decades to clean up. Therefore, during the cleanup process, when a potential pathway for human exposure (air, water, soil) is identified, a process is normally initiated for exposure to be minimized or eliminated as soon as possible. EPA cleanup programs, or authorized delegated state programs, undertake or oversee interim site specific actions (e.g., fencing, capping of source areas, providing alternate water supplies, or constructing containment walls, etc.) and cleanup activities (e.g., excavation and ground water treatment, etc.) to reduce or eliminate exposure to protect people and the environment from the acute threats posed by uncontrolled hazardous wastes or contaminated ground water while cleanup is ongoing.

Why is EPA doing this?

Cleanups are undertaken to address threats to public health from hazardous substances and petroleum, and to prevent the migration of contaminated ground water. Substances commonly found on contaminated sites have been linked to a variety of human health problems, such as birth defects, cancer, and changes in neuro-behavioral functions. These cleanup activities are intended to assure that unacceptable human exposures are eliminated as soon as possible and contaminated ground water migration is controlled while the longer-term controls are being designed and/or constructed and site cleanup progresses towards reuse.

Accomplishments

Progress Towards Meeting Strategic Plan

EPA established five measures to gauge progress in advancing cleanups. Three of the targets were met, including sites with human exposures and contaminated groundwater migration under control. The measure related to Federal Facility Superfund sites was not achieved. The measure was not met due to a variety of factors including delayed cleanup schedules, new contamination, funding shortfalls, documentation issues, weather conditions, and change of site personnel.

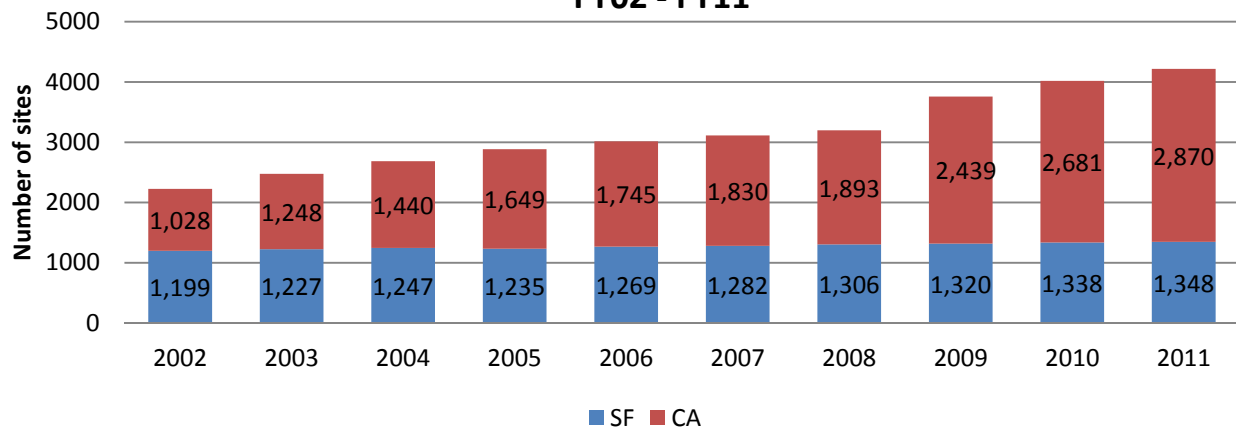
Status	Measure	Target	FY11 Value
●	Number of Superfund sites with human exposures under control	10	10
●	Number of Superfund sites with contaminated ground water migration under control	15	21
●	Cumulative percentage of RCRA facilities with human exposures to toxins under control	72%	77%
●	Cumulative percentage of RCRA facilities with migration of contaminated ground water under control	64%	67%
⬠	Number of Federal Facility Superfund Sites where the final remedial decision for contaminants at the sites has been determined	104	82

Legend: ▲ Data Unavailable ● Goal Not Met ● Goal Met

Number of sites protective for people is increasing

EPA is making significant progress in assuring that prior to completion of cleanups, unacceptable human exposures are eliminated or controlled as soon as possible. As can be seen in figure 10, the RCRA CA and Superfund programs have made significant progress in stabilizing exposure, while longer-term cleanup progresses. At these sites, EPA has taken action to address any unacceptable exposures and eliminate acute risks while continuing to pursue long-term, permanent cleanups. These actions demonstrate EPA's commitment to protecting human health and the environment from possible short- and long-term effects of site-related contamination. Since FY02, the number of Superfund and RCRA CA sites determined to be Protective for People (PPF) has increased by 89 percent.

**Figure 10. Number of Superfund Sites and RCRA CA Sites Protective for People
FY02 - FY11**



COMPLETING CLEANUPS AND REUSING SITES

What is it?

One of EPA’s top priorities is to support sustainable, thriving communities by cleaning up sites and returning them to productive reuse or maintaining the viability of the operating facility. During this phase of the cleanup continuum, cleanup activities are completed. However, for some sites, removing or destroying all of the contamination is not possible. Some remaining contamination must be managed on-site, creating the need for site-specific long-term stewardship activities. EPA employs several different types of controls at these sites, including institutional controls and engineering controls, to assure that any contamination is contained and stabilized, and that human or environmental exposure to contamination is limited. Significant attention is given to these activities to ensure long-term protection of human health and the environment.












Why is EPA doing this?

There are multiple economic and social impacts that could be linked to cleanup activities. Land is a resource to communities. Cleaning up land, so that it can be put to productive use, be it commercial, industrial, residential, recreational, greenspace or other, provides many benefits to the community, including reduced morbidity and mortality risks. If a property is cleaned up and revitalized, the reuse may result in new income to the community in the form of taxes, jobs to local residents or it may provide recreational or other services to make the community a better place to live. Lastly, reusing contaminated property often means that greenspace is not developed.

Accomplishments

Progress Towards Meeting Strategic Plan

EPA established eleven measures related to completion of cleanups and site reuse. All but the LUST cleanup target was met in FY11. The LUST program was only able to complete 91 percent of the targeted cleanups primarily because many states are facing significant staff and resource constraints, while at the same time cleanup costs are rising.

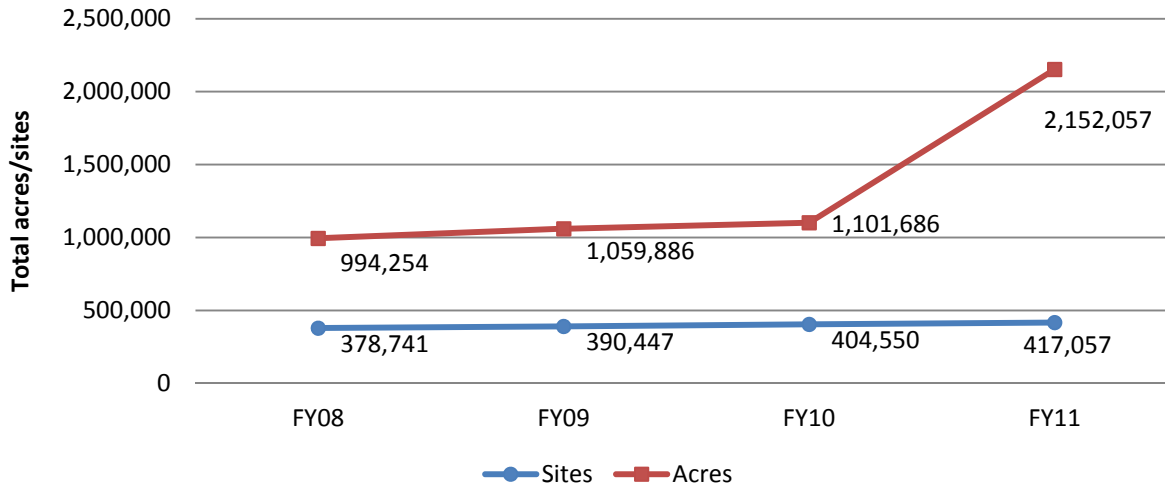
Status	Measure	Target	FY11 Value
	Number of LUST cleanups completed that meet risk-based standards for human exposure and ground water migration	12,250	11,169
	Number of LUST cleanups completed that meet risk-based standards for human exposure and ground water migration in Indian country	32	42
	Annual number of Superfund sites with remedy construction completed	22	22
	Number of Federal Facilities where all remedies have completed construction	70	70
	Number of remedial action projects completed at Superfund NPL sites	103	132
	Number of properties cleaned up using Brownfields funding	60	130
	Acres of Brownfields properties made ready for reuse	1,000	6,617
	Jobs leveraged from Brownfields activities	5,000	6,446
	Billions of dollars of cleanup and redevelopment funds leveraged at Brownfields sites	.9	2.14
	Cumulative percentage of RCRA facilities with final remedies constructed	38%	42%
	Number of Superfund sites ready for anticipated use site-wide	65	65

Legend:  Data Unavailable  Goal Not Met  Goal Met

Over two million acres of formerly contaminated land in reuse or ready to be reused

Each of EPA’s cleanup programs annually reports the number of sites ready for anticipated use (RAU). Since EPA began measuring our progress obtaining RAU status in FY08, the number of sites RAU has steadily increased (figure 11). Today, EPA has made over 2.1 million acres and over 417,000 sites RAU, which is approximately 81 percent of all sites within the EPA universe. As a result, communities are able to reclaim these properties for ecological, recreational, commercial, residential and other purposes.

Figure 11. Sites and Acres Ready for Anticipated Use FY08-FY11



Leveraging the private sector

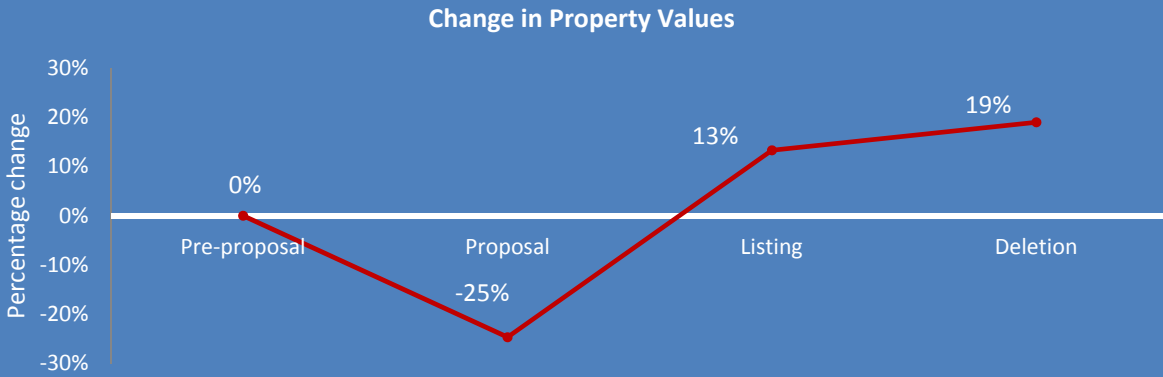
In FY11, the Brownfields Program's funding for cleanup and redevelopment activities leveraged 6,447 jobs. Cumulatively, the program has leveraged 72,000 jobs since its inception in 1995. These projects can have a large positive impact on communities. For example, EPA funded a cleanup project in Michigan in FY11 that is employing 20-25 people, and will ultimately reach 150 people. Similarly, a cleanup project funded in FY11 at a former gas manufacturing plant in Ohio will be redeveloped as an office hotel and retail complex that will employ over 1,000 people.

Managing to project completion

In FY11, the EPA began reporting on a new Superfund Program measure that tracks remedial action project completions at NPL sites. The new measure augments the program’s sitewide construction completion measure by emphasizing incremental progress in reducing risk to human health and the environment. In FY11, the EPA achieved 132 project completions, exceeding its target of 103 by 28 percent.

Increased Property Values Attributed to EPA Program

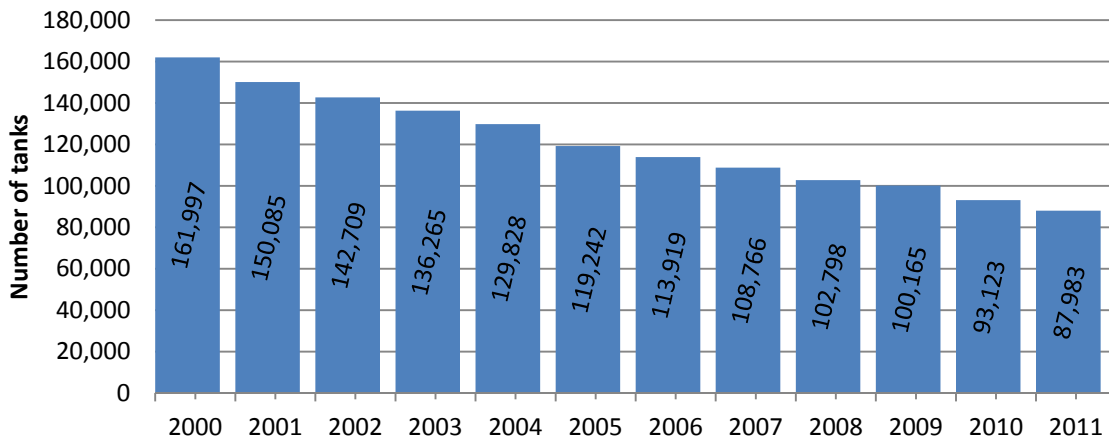
In January 2011, researchers at Duke University and the University of Pittsburgh estimated the social benefits of land cleanup by examining how property values near contaminated sites change as a result of cleanup activities. The study looked at residential properties within 1 kilometer of Superfund sites across the United States from 1990 – 2000 and estimated that median economic housing values appreciated by 13.1 percent at listing and 19 percent at deletion, when evaluated at the Census block level.



Continuing to reduce the backlog of LUSTs

The LUST Program has achieved significant success in closing releases since the beginning of the program. Of the approximately 501,723 total confirmed releases, by the end of FY11, 82 percent were closed. As indicated in figure 12, the LUST program continues to make progress decreasing the overall backlog; however, the pace of cleanups is declining. In FY11, the program only completed 91 percent of the annual cleanup goal of 12,250 sites by finishing 11,169 cleanups. Achieving these cleanup rates in the future will be more challenging. In FY11, the LUST Program completed a study of its cleanup backlog. This study will form the basis for discussion with EPA’s partners in identifying potential opportunities to further reduce the backlog such as expedited site assessment, remedial optimization, integrated funding opportunities and leveraging petroleum brownfields opportunities where applicable.

**Figure 12. National LUST Backlog
FY00 - FY11**



III. RESPONDING TO EMERGENCIES AND REDUCING RISKS

Each year, more than 20,000 emergencies involving the release (or threatened release) of oil and hazardous substances are reported in the United States, potentially affecting both communities and the surrounding natural environment. These emergencies may occur from transportation accidents, events at chemical or other facilities using or manufacturing chemicals, or as a result of natural or man-made disaster events. EPA responds to immediate threats from releases of hazardous substances and oil, and its first priority is to eliminate any danger to the public.

There is a complex system of responsibilities for these types of emergencies. In general, responsibilities are spread across federal, state and local governments, depending upon the size and type of the emergency and involve the environmental, emergency management, public safety, and public health agencies of the three levels of government. In addition, industry has a very important role to play in preparing for and responding to such emergencies. This section will review our programs and describe our progress responding to emergencies.

TABLE 3. OSWER RESPONSE AND REMOVAL PROGRAMS

Superfund Emergency Response and Removal Program The Superfund Removal Program functions as the backbone federal response to any contamination event; providing response support to state, local, tribal and potentially responsible parties when their response capabilities are exceeded; and managing risks to human health, the environment, and the economic viability of communities. Removal actions are typically immediate short-term responses intended to protect people from threats posed by hazardous waste sites.⁷

Preparing for and Responding to Emergencies

What is it?

The Superfund Emergency Response and Removal Program trains, equips and deploys resources in order to contain and remove contaminants. Under this Program, trained and equipped EPA personnel respond to or oversee the responsible party's clean up of thousands of releases, regardless of their cause. EPA manages and/or provides support for emergency responses, removal assessments, site stabilizations and cleanup response actions at NPL and non-NPL sites. This 24-hour per day capability is a cornerstone of the National Oil and Hazardous Substances Pollution Contingency Plan, more commonly called the National Contingency Plan (NCP). The NCP is the federal government's blueprint for responding to both oil spills and hazardous substance releases. EPA maintains national and regional response centers for 24-hour reporting of hazardous material or petroleum releases. EPA deploys many advanced technologies and other assets during disaster responses, such as the National Decontamination Team, the portable laboratories or the airborne sensor platform called ASPECT.

Annually, EPA reviews its response and removal preparedness via the Core National Approach to Response (Core NAR) assessment. The Core NAR addresses day-to-day preparedness for removal actions for Regions, Special Teams and Headquarters, as well as national preparedness for chemical, biological, radiological and nuclear incidents. The Core NAR score is intended to measure our level of emergency preparedness for many various types of incidents. In addition, OSWER supports EPA's Homeland Security Emergency Preparedness and

⁷ This program is a part of EPA's cleanup and EPA's emergency response functions. An additional description of this program's responsibilities is described in section 2.

Response Program through multiple efforts including participating in the National Incident Coordination Team, response training and exercises, and providing technical capabilities.




Why is EPA doing this?




While threats confronted by the emergency response program vary greatly in size, nature and location, there is a common element in all cases—time. Prompt action is crucial. The Program's first priority is to eliminate dangers to the public. EPA's role as a backbone is a fundamental part of the national response system and is heavily relied upon to deal with any environmental emergency.

Accomplishments

Progress Towards Meeting Strategic Plan

There were three measures associated with preparing for and responding to emergencies. The targets for all three measures were exceeded.

Status	Measure	Target	FY11 Value
	Number of Superfund lead removal actions completed annually	170	214
	PRP removal completions overseen by EPA	170	191
	Score on annual Core National Approach to Response	60%	78%

Legend:  Data Unavailable  Goal Not Met  Goal Met

EPA response provides a backbone

EPA completed or oversaw the completion of more than 400 removal actions in FY11. These cleanups were of varying complexity and contained a wide range of contaminants that posed a threat to human health and the environment. If the party that spilled the chemical cannot clean it up, EPA responds. If the local authorities, fire department or local Emergency Management personnel cannot clean it up, EPA responds.

EPA responds to tornados in Joplin, MO

On May 22, 2011, tragedy struck Joplin, Missouri, after an F-5 tornado damaged approximately 8,000 structures in its wake. In the aftermath of the tornado, EPA worked with the Missouri Department of Natural Resources and the Federal Emergency Management Agency, as well as other state and local partner agencies and nongovernmental organizations, to reuse and recycle more than 156 tons of electronic equipment, 104,000 containers and 257 tons of white goods, such as housing materials and propane cylinders. In addition, EPA coordinated with partner agencies to conduct rapid needs assessment, air monitoring for asbestos and particulates, and household hazardous waste operations, as well as provide long-term community recovery support. EPA maintained public outreach efforts throughout the response, conducting more than 70 news media interviews that have resulted in several hundred news stories mentioning the agency's efforts.

ACRONYM GLOSSARY

ACP – Area Contingency Planning

ACRES – Assessment, Cleanup, and Redevelopment Exchange System

ARRA – American Recovery and Reinvestment Act

AWP – Area Wide Planning

CA – Corrective Action

CCR – Coal Combustion Residue

CERCLA – Comprehensive, Environmental Response, Compensation and Liability Act

EJ – Environmental Justice

EPA – Environmental Protection Agency

EPCRA – Emergency Planning and Community Right-to-Know Act

FRP – Facility Response Plan

GHG – Greenhouse Gas

ICI – Integrated Cleanup Initiative

IWMP – Integrated Waste Management Plan

LUST – Leaking Underground Storage Tank

MBTE – Methyl-tertiary-butyl-ether

MSW – Municipal Solid Waste

NAR – National Approach to Response

NCP – National Contingency Plan

NPL – National Priorities List

OSWER – Office of Solid Waste and Emergency Response

PCB – Polychlorinated Biphenyls

PFP – Protective for People

PRP – Potentially Responsible Party

RAU – Ready for Anticipated Use

RCRA – Resource Conservation and Recovery Act

RMP – Risk Management Plan

SMM – Sustainable Materials Management

SPCC – Spill Prevention, Control and Countermeasure

TSCA – Toxic Substances Control Act

TSD – Treatment, Storage and Disposal