U.S. Environmental Protection Agency



The Office of Solid Waste and Emergency Response

Fiscal Year 2010 End of the Year Report

FY 2010

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The Office of Solid Waste and Emergency Response (OSWER) provides policy, guidance, and direction for the Agency's solid waste and emergency response programs. OSWER administers EPA's land assessment and cleanup programs and supports state, tribal, and local governments in the cleanup and reuse of potentially contaminated sites. OSWER administers the Brownfields program which supports state and local governments in cleaning up, redeveloping and reusing contaminated and potentially contaminated sites. OSWER manages the Superfund program to respond to hazardous waste sites and chemical releases as well as encourage innovative technologies to address contaminated soil and groundwater. OSWER provides technical and regulatory oversight at federal facilities on the National Priorities List (NPL) and supports efforts to expedite the cleanup and reuse of closing military installations. OSWER develops guidelines for the land disposal of hazardous waste, provides technical assistance to all levels of government to establish safe practices in waste management, and works with states and tribes to prevent releases from underground storage tanks. OSWER promotes safe materials management and fosters waste reduction. OSWER also makes significant contributions to ensuring the nation's homeland security through its preparedness and emergency response programs. All these activities are an outgrowth of OSWER's core missions to protect human health and the environment.

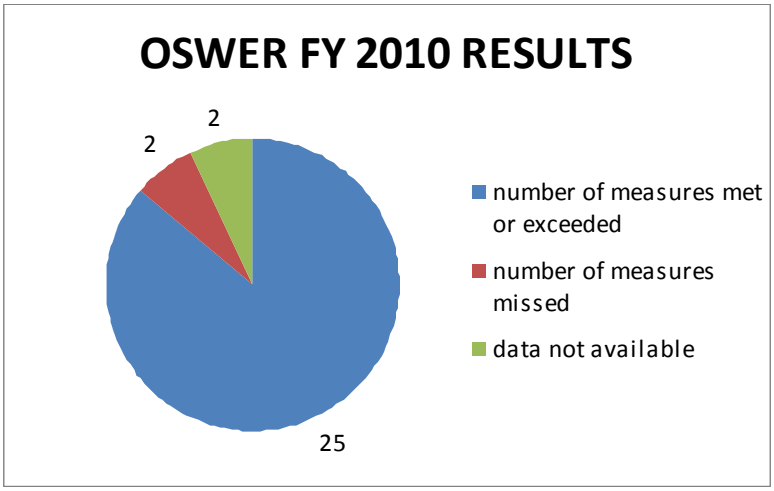
To better respond to the magnitude of the challenges our environment faces, we now recognize the need to shift to an approach that puts individual program areas into a larger framework of sustainable materials management which will move our programs from end-of-pipe waste management to materials management throughout the whole cycle. We have begun, and will continue throughout FY2011, to work with our regional counterparts and others to move our work in this direction. We are evaluating our existing programs to better align them with a sustainable materials management approach.

In FY 2010, OSWER in partnership with the Office of Enforcement and Compliance Assurance (OECA) launched a three-year strategy, the Integrated Cleanup Initiative (ICI or the Initiative), to identify and implement improvements to the Agency's land cleanup programs. The goal of the Initiative is to better use the Agency's land cleanup authorities to accelerate cleanups where possible, address a greater number of contaminated sites, and put these sites back into productive use while protecting human health and the environment. This Initiative reflects the continued evolution of the nation's land cleanup programs. EPA and its state, tribal, and local partners, including affected communities, have matured in our collaborative approaches to identifying and cleaning up these sites. While progress has been made on many fronts, new challenges and opportunities continue to emerge. For example, large, complex sites demand a much larger portion of EPA's Superfund resources today than was the case in the early years. In addition, some communities are grappling with a number of contaminated sites that are being addressed through multiple EPA and state programs. EPA and its partners want to maximize

opportunities to spur cleanup by anticipating how the site could best be reused —an approach that has evolved during the last several decades.

FY 2010 Measures Summary

This report summarizes OSWER's progress meeting our 29 annual performance measures under the EPA's strategic plan. Of those 29 targets, OSWER met or exceeded 86 percent of them, missed 7 percent, and data are not yet available for 7 percent. This report is not meant to capture all of OSWER's activities over the past year and we invite your questions, comments, and suggestions



Superfund

Superfund (www.epa.gov/superfund) is the federal government's leading program to clean up the nation's uncontrolled hazardous waste sites. At the end of FY 2010, 1,627 sites were listed on the National Priorities List (NPL). Of these, EPA has completed construction of the final remedy at 1,098 sites and has brought 475 of those sites into "sitewide ready for anticipated use." Designs are being developed, assessments are underway, or construction is ongoing at the remaining sites that have not yet completed construction. In FY 2010 Superfund

- Completed 365 final site assessment decisions exceeding the target of 330
- Controlled unacceptable human exposures from site contamination at a net total of 18 additional human exposure sites, exceeding the target of 10.
- Controlled ground water migration from site contamination at a net total of 18 additional ground water sites, exceeding the target of 15.
- Made 66 sites ready for anticipated use exceeding the target of 65.
- Completed construction of remedies at 18 sites, including federal facilities; therefore, not achieving the target of 22.

The Superfund cleanup work EPA is doing today generally is more difficult, is more technically demanding, and consumes considerable resources at fewer sites than in the past. Over the past decade, this resource challenge has meant some new construction projects could not be

immediately funded and certain very large scale ongoing construction projects have proceeded at a controlled pace. In addition, the number of site candidates available for completion in any given year has dropped significantly as the number of sites completed has reached more than 67 percent of the sites listed on the NPL. Further, site managers are often required to adjust site construction schedules due to unexpected issues that are typical of construction at hazardous waste sites (e.g., inclement weather, equipment availability, unanticipated increases in the volume of waste to be addressed). As a result of these challenges, the Superfund program did not meet its FY 2010 target for construction completion. Even with unlimited funds, meeting annual construction completion goals will remain a challenge, and there are certain sites and projects that will take extended periods to complete. EPA is addressing these challenges as part of the Integrated Cleanup Initiative.

Further Superfund program accomplishments in FY 2010 beyond the national targets include

- Selected 92 cleanup remedies at 60 sites; amended 24 cleanup plans at 24 sites; and issued 59 explanations of significant differences at 53 sites.
- Graduated nearly 100 community members from the Superfund job training program.
- Conducted 261 five-year reviews, including 30 reviews at Federal facility sites. These reviews are conducted to ensure that remedies remain protective at NPL sites.
- Deleted 7 sites from the NPL and at 5 other sites, deleted a portion of the site from the NPL.
- EPA secured private party commitments of nearly $1.6 billion in FY 2010 to fund cleanup work. Of this amount, potentially responsible parties agreed to conduct $1.4 billion in future response work, and to reimburse EPA for $154 million in past costs. EPA billed private parties $82 million for oversight costs.

Superfund 30th Anniversary

On December 11, 1980, President Jimmy Carter signed into law the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund). This new statute gave EPA the authority to clean up uncontrolled hazardous waste sites and spills. For the past 30 years, the Superfund program has been making significant progress protecting thousands of communities by cleaning up the Nation's most serious hazardous waste sites and by responding to thousands of oil and chemical spills. EPA has completed construction of cleanup remedies at more than 67 percent of final and deleted sites on the Superfund National Priorities List. EPA has secured more than $32.6 billion in private party commitments to fund cleanup work. Of this amount, potentially responsible parties agreed to conduct $27.1 billion in future response work, and to reimburse EPA more than $5.5 billion in past costs.

Federal Facility Cleanup Dialogue
In FY 2010 OSWER began work on the Federal Facility Cleanup Dialogue to provide an opportunity for a diverse array of stakeholders to discuss the progress, achievements and challenges surrounding the cleanup of federally-owned contaminated sites. In meetings held in October, stakeholders engaged in thoughtful discussions, identified and prioritized issues of federal cleanups, and presented ideas for addressing the challenges of federal facility site cleanups. In FY 2011, OSWER intends to work with other federal agencies and stakeholders to make progress in addressing nationally significant issues and work collaboratively to resolve regionally based concerns.

RCRA Corrective Action

The RCRA Corrective Action program (http://www.epa.gov/epawaste/hazard/correctiveaction) requires facilities that have treated, stored or disposed of RCRA hazardous waste to investigate and cleanup hazardous releases themselves, in accordance with state and federal requirements. In FY 2010, through the Agency's work on the RCRA corrective action baseline of 3,747 facilities

- 72 percent of RCRA corrective action facilities had current human exposures under control, exceeding the target of 69 percent.
- 63 percent of RCRA corrective action facilities had migration of contaminated ground water under control, exceeding the target of 61 percent.
- 37 percent of RCRA corrective action facilities constructed final remedies, exceeding the target of 35 percent.

Engaging Communities in Cleanup, Emergency Response, and Management of Hazardous Substances
In 2010, the OSWER released the Community Engagement Initiative (CEI) Implementation Plan, which lays out 16 actions and activities that EPA will undertake in the next few years. Greater community involvement will strengthen OSWER's programs by consistently and effectively engaging local communities and stakeholders in decision-making processes that produce outcomes that are protective and support healthy and sustainable communities. This initiative provides an opportunity for OSWER to refocus and renew its vision for community engagement, build on existing good practices, and apply them consistently in OSWER processes. For more information, visit: www.epa.gov/oswer/engagementinitiative/index.htm.

Brownfields and Land Revitalization

EPA's Brownfields and Land Revitalization Program (www.epa.gov/brownfields) is dedicated to revitalizing real properties where expansion, redevelopment, or reuse might be complicated by contamination issues. The Brownfields program works in partnership with states, tribes, and localities to promote the assessment, cleanup, and sustainable reuse of Brownfields, petroleum Brownfields, and other contaminated properties. In FY 2010, the Brownfields Program

- Assessed 1,326 properties, exceeding the target of 1,000
- Cleaned up 109 properties, exceeding the target of 60.
- Made 3,627 acres of brownfields property ready for use, exceeding the target of 1,000.

- Leveraged 5,177 jobs meeting the target of 5,000.
- Leveraged $1.4 billion in cleanup and redevelopment funds exceeding the target of 0.9 billion.

Brownfields Area-Wide Planning Pilots
In FY 2010, EPA began piloting an area-wide planning approach to community brownfields challenges. As one of EPA's High Priority Performance Goals, EPA will provide grants and/or direct technical assistance to 23 communities that applied through the Brownfields Area-Wide Planning Pilot Program. This assistance will enable recipients to initiate development of an area-wide plan within their community and to identify next steps and resources needed to implement the plan. This approach will benefit under-served and economically disadvantaged communities, and will allow those communities to assess and address a single large or multiple Brownfields sites within their boundaries, thereby advancing area-wide planning to enable redevelopment of Brownfields properties on a broader scale. EPA will coordinate its enforcement, water, and air quality programs, and work with other Federal agencies, states, tribes and local governments to leverage resources to help implement associated targeted environmental improvements identified in each community's area-wide plan. After communities implement the activities, EPA anticipates that this effort will also lead to increased air and water quality by reducing greenhouse gas emissions and other air pollutants.
(www.epa.gov/brownfields/areawide_grants.htm)

Underground Storage Tanks
EPA works with our state, territorial, and tribal partners to prevent releases by ensuring UST systems are in operational compliance with release detection and release prevention requirements. We also promote timely and protective cleanup of petroleum releases from federally regulated underground storage tanks by enhancing state, territorial, and tribal remediation efforts and promoting redevelopment (www.epa.gov/OUST). In FY 2010 EPA, state, territorial, and tribal partners

- Achieved a compliance rate of 68.6 percent at UST facilities, exceeding the target of 65.5 percent.
- Decreased the annual number of confirmed releases from underground storage tanks to 6,328, achieving the target of fewer than 9,000.
- Completed 11,591 cleanups of leaking and underground storage tanks (including 62 cleanups in Indian Country), therefore, not achieving the target of 12,250 cleanups.

State and territorial cleanup programs are dealing with increased challenges to complete cleanups, such as complex groundwater contamination at sites, which is more costly and time consuming to clean up; increasing costs to perform cleanup activities; and limited state and territorial resources which may be diverted to other state and territorial needs. Furthermore, although financed by private, state, and federal money, a high proportion of these cleanups are paid for by state dollars.

Job Creation at Recovery Act sites

In 2010, EPA continued to make great strides in promoting jobs and a healthier environment through our American Recovery and Reinvestment Act of 2009 (ARRA) efforts. Three OSWER programs (Superfund, Leaking Underground Storage Tanks, and Brownfields) received ARRA funding. On-site construction has started at all of EPA's 51 **Superfund** Recovery Act sites. As of September 30, 2010, EPA contractors have expended 58.8 percent of the Recovery Act funds received by the program. Fifty-seven percent of contracts were awarded to socioeconomic small businesses. The funds are being used to treat or remove organic compound contamination, treat or remove heavy metal contamination, begin or accelerate work to treat drinking water, provide alternate residential drinking water supplies, mitigate damage to wildlife habitat/ecosystems, and extend the dredging season and expand the work at Superfund sites. In the **Leaking Underground Storage Tanks** program, 780 site assessments have begun and 642 were completed (39 percent of the target) and 709 cleanups have begun and 592 were completed (59 percent of the target). Also, Recovery Act funds have contributed to other assessments and cleanups at a total of 2,222 sites, which did not begin as Recovery Act projects. Over 322 **Brownfields p**roperties (63 percent of the target) have been assessed and 13 have been cleaned up (43 percent of the target). Twenty properties totaling 30 acres are now ready for reuse.

Accident Prevention, Emergency Preparedness and Response

EPA prevention and preparedness programs (www.epa.gov/emergencies) help ensure that facilities and organizations take steps to prevent oil spills, chemical accidents, and other emergencies, implement planning and preparedness requirements, and respond to environmental emergencies. EPA responds to immediate threats from releases of hazardous substances and oil, and its first priority is to eliminate any danger to the public. In FY 2010, EPA

- Completed 199 Superfund-led removals, exceeding the target of 170.
- Completed 192 voluntary emergency removals, exceeding the target of 170.
- Conducted 618 risk management plan audits and inspections conducted, exceeding the target of 400.
- Brought 48 percent of all inspected facilities required to have a Facility Response Plan (FRP facilities) that were not compliant into compliance, exceeding the target of 15 percent.
- Brought 33 percent of all inspected facilities subject to the Spill Prevention, Control, and Countermeasure (SPCC) requirements that were non-compliant into compliance, exceeding the target of 15 percent.
- Scored 87.6 percent on EPA's annual Core National Approach to Response Assessment, exceeding the target of 55 percent.

Response to BP Oil Spill

Following the BP Oil Spill in the Gulf of Mexico on April 22, 2010, EPA provided full support to the U.S. Coast Guard. EPA's primary role was working with local, state and federal response partners to monitor the air, water and sediment along the Gulf Coast. Our goal was to continue to ensure that the air, water and sediment were monitored carefully to protect human health and the environment. EPA collected, analyzed, and evaluated more than 5,000 water, waste, sediment, and air samples. EPA and the Coast Guard issued a directive to BP requiring them to decrease overall volume of dispersant by 75 percent and to cease use of dispersant on the surface of the water altogether unless provided prior written authorization from the Coast Guard. EPA provided waste management expertise to ensure that the waste generated by the oil spill and by the cleanup was managed properly including visiting many of the waste management facilities to ensure that they were handling the waste properly. The Agency also reviewed more than 1,800 potential clean-up solutions solicited through the EPA Web site. EPA's Emergency Operations Centers (EOCs) were activated seven days a week until the release was under control. Furthermore, EPA made it a priority to clearly inform and engage communities and stakeholders during the oil spill. From the beginning of the crisis, EPA shared the latest information in an understandable format, launching a response website, http://www.epa.gov/bpspill, soon after the spill began. Agency leadership held public and one-on-one meetings with residents, community groups and local businesses - in the midst of the response, rather than after the fact - to make sure that all community members could be engaged. Non-Government Organizations (NGOs) provided important input in the response and will be integral to the recovery and restoration of the Gulf Coast. EPA worked with representatives from the Coast Guard, Interior Department, and the National Oceanographic and Atmospheric Administration to establish a Non-Government Organization Interaction Unit to increase the level of engagement and strengthen the partnership with numerous local NGOs throughout the Gulf Region that are essential to the response effort.

Recycling and Waste Reduction

Although FY 2010 data, and in some cases 2009 data, will not be available until 2011, available data suggest EPA is on track for meeting its recycling and waste reduction goals. EPA initiated several activities to increase the volume of waste diverted, including reaching out to local governments, organizations, and businesses; creating new recycling and reuse toolkits; and demonstrating the significant energy savings and greenhouse gas reduction benefits of recycling municipal solid waste and industrial materials. For example, in FY 2010, the number of WasteWise members increased to 3,024 from 2,484 in FY 2009, an increase of 21.7 percent.

- In FY 2010, EPA's partners reduced 3.7 million pounds of priority chemicals from all phases of the manufacturing lifecycle through source reduction and/or recycling, exceeding the target of 750,000.

Managing Hazardous & Non-Hazardous Waste

While reducing the amount of waste generated is an Agency priority, EPA's also works to ensure that any waste that is created is managed under protective controls. In FY 2010 EPA and state and tribal partners

- Issued 140 initial approval controls and updated controls at treatment, storage, and disposal facilities regulated by the Resource Conservation and Recovery Act (RCRA).
- Completed integrated solid waste management plans with 23 tribes, meeting the target of 23.
- Closed, cleaned up, or upgraded 153 open dumps in Indian Country or on other tribal lands, exceeding the target of 22.

Preventing Coal Ash Releases

After the failure of an ash disposal cell at the Tennessee Valley Authority's Kingston plant in December 2008 EPA assessed the stability of impoundments and similar management units that contain wet-handled coal combustion residuals (CCRs). In FY 2010, EPA published a proposed regulation governing the disposal of CCRs and throughout the summer conducted extensive public outreach on this proposal. Over 400,000 comments have been received by the docket. The Agency is conducting assessments and posting final reports on the structural integrity of impoundments, including recommendations to ensure the continued stability of the impoundments. EPA is also following up with facilities to ensure that the recommendations in the final reports are implemented.

Moving Forward

While progress has been made on many fronts, new challenges and opportunities continue to emerge.

Integrating All Cleanup Programs

Integrating approaches and leveraging best practices across EPA's full spectrum of contaminated sites—Superfund, brownfields, Resource Conservation and Recovery Act (RCRA) corrective action, federal facilities, and underground storage tanks—is a critical part of the Integrated Cleanup Initiative. Strong project management and managing projects to completion are overarching principles for the Integrated Cleanup Initiative (ICI). With its enhanced focus on project management, the Agency will be able to further demonstrate progress and optimize the work within the various stages of the cleanup pipeline. Consistent with this approach, in FY 2011 the Superfund Program will report a new performance measure, Remedial Action Project Completions. Under the ICI, EPA is exploring policy changes and/or efficiencies to speed the delivery of federal brownfields funds to communities and tribes; embarking on a Superfund site assessment initiative to improve the effectiveness of the site assessment process; considering several Superfund project management pilot projects to improve efficiencies; identifying best practices related to the leveraging of our Brownfields and Removal Programs to improve and increase site cleanups; and pursuing backlog reduction strategies to increase the pace of cleanups complete at leaking underground storage tank sites.

Integrating the Life-Cycle Stages of Materials from Extraction to End-of-Life

Sustainable materials management is a core element of RCRA's resource conservation mandate. By considering the life cycle of materials from how they are extracted, manufactured, distributed, used, reused, recycled and finally disposed, we are casting a far broader net than our traditional approaches which considered waste and use phases of chemicals and materials. This represents an evolution in how we think about environmental protection. Consistent with this approach, in FY11 EPA will continue to advance its efforts from waste management to materials management. Efforts involve developing a materials management framework and strategy that implements EPA's recommendations in *Sustainable Materials Management: The Road Ahead* (2009), senior leadership and stakeholder discussions, messaging efforts, and efforts to evolve existing work to include "upstream" elements.

Glossary

Assessment: EPA assessment grants provide funding for a grant recipient to inventory, characterize, assess, and conduct planning and community involvement related to brownfield sites.

Brownfields: Abandoned, idled, or under used industrial and commercial facilities/sites where expansion or redevelopment is complicated by real or perceived environmental contamination. They can be in urban, suburban, or rural areas. EPA's Brownfields initiative helps communities mitigate potential health risks and restore the economic viability of such areas or properties.

Construction Completion: Sites qualify for this categorization when: any necessary physical construction is complete, whether or not final cleanup levels or other requirements have been achieved; EPA has determined that the response action should be limited to measures that do not involve construction; or the site qualifies for deletion from the NPL.

Contamination: Any physical, chemical, biological, or radiological substance or matter that has an adverse effect on air, water, or soil.

Corrective Action: EPA can require treatment, storage and disposal (TSDF) facilities handling hazardous waste to undertake corrective actions to clean up spills resulting from failure to follow hazardous waste management procedures or other mistakes. The process includes cleanup procedures designed to guide TSDFs toward in spills.

Federal Facilities: Buildings, installations, structures, land, public works, equipment, aircraft, vessels, and other vehicles and property, owned by, or constructed or manufactured for the purpose of leasing to, the Federal government.

Five-Year Review: Periodic reviews which are generally required by Superfund law or policy when a cleanup action does not allow for unrestricted use and unlimited exposure at the site.

Hazardous Waste: By-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed. Possesses at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity), or appears on special EPA lists.

Human Exposure Insufficient Data (HE ID): Due to uncertainty regarding exposures, one cannot draw conclusions as to whether human exposures are controlled. Sites are typically assigned to this category when responses have not been initiated or response actions have been initiated but have not yet generated reliable information to make an evaluation for this indicator - *i.e.*, there is not sufficient information to determine whether there are any current, complete unacceptable human exposure pathways at the site, therefore no determination is possible.

National Priorities List (NPL): EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under Superfund. The list is based primarily on the score a site receives from the Hazard Ranking System. EPA is required to update the NPL at least once a year. A site must be on the NPL to receive money from the Trust Fund for remedial action.

Remedial Action: The actual construction or implementation phase of a Superfund site cleanup that follows remedial design.

Remedial Investigation/Feasibility Study: An in-depth study designed to gather data needed to determine the nature and extent of contamination at a Superfund site; establish site cleanup criteria; identify preliminary alternatives for remedial action; and support technical and cost analyses of alternatives. The remedial investigation is usually done with the feasibility study. Together they are usually referred to as the "RI/FS".

Resource Conservation and Recovery Act: The Resource Conservation and Recovery Act (RCRA) give EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes.

Revitalization: Restore land and other natural resources into sustainable community assets that maximize beneficial economic, ecological and social uses and ensure protection of human health and the environment.

Sites: An area or place within the jurisdiction of the EPA and/or a state.

Sitewide Ready for Anticipated Use: This measure tracks sites on the NPL where: 1) construction of the remedy is completed, 2) all cleanup goals have been achieved to reduce unacceptable risk that could affect current and reasonably anticipated future land uses of the site, and 3) all institutional controls have been implemented.

Superfund: The program operated under the legislative authority of CERCLA and SARA that funds and carries out EPA solid waste emergency and long-term removal and remedial activities. These activities include establishing the National Priorities List, investigating sites for inclusion on the list, determining their priority, and conducting and/or supervising cleanup and other remedial actions.

Underground Storage Tank: A tank located at least partially underground and designed to hold gasoline or other petroleum products or chemicals.

Vapor Intrusion: Vapor intrusion generally occurs when there is a migration of volatile chemicals from contaminated groundwater or soil into an overlying building. Volatile chemicals can emit vapors that may migrate through subsurface soils and into indoor air spaces of overlying buildings in ways similar to that of radon gas seeping into homes. Volatile chemicals may include volatile organic compounds, select semivolatile organic compounds, and some inorganic analytes, such as elemental mercury, radon, and hydrogen sulfide.