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U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE SUBCOMMITTEE ON
SUPERFUND AND WASTE MANAGEMENT
UNITED STATES SENATE**

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Good morning Mr. Chairman and Members of the Subcommittee. I am Susan Bodine, Assistant Administrator of the Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency. Thank you for the opportunity to appear today to discuss the Superfund program: the tremendous progress that has been made, the challenges that remain, and what EPA is doing to address those challenges.

THE SUPERFUND PROGRAM

As the Subcommittee knows, the Superfund program was established under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund), which Congress passed in December 1980 to respond to citizen concerns over Love Canal and other toxic waste sites. Through the Superfund program, the U.S. Environmental Protection Agency (EPA) and its partners address abandoned, accidentally spilled, illegally dumped or intentionally released hazardous substances that pose current or future threats to human health and the environment.

The Superfund program has been very successful in protecting human health and the environment. To date, EPA and its State and Tribal partners have assessed 46,515 sites; the removal program has conducted 8,948 removals at 6,415 sites; and 1,612 sites

have been proposed to, listed on, or deleted from the National Priorities List (NPL). Of the 1,553 final or deleted sites, 95 percent have begun construction activity, have been completed, or have been deleted from the NPL. Remedy construction is complete at 970 sites. EPA expects the Superfund program to complete cleanup construction at an additional 40 Superfund sites in FY 2006.

EPA also has been very successful in leveraging federal dollars to secure private party cleanups. In FY 2005, EPA secured commitments from Potentially Responsible Parties (PRPs) to carry out cleanups worth more than \$857 million and to reimburse EPA for more than \$248 million in costs. The cumulative value of private party cleanup commitments and cost recovery settlements is more than \$24 billion. EPA's enforcement efforts have allowed the program to focus the Agency's appropriated funds on sites where PRPs cannot be identified or are unable to pay for or conduct the cleanup.

To fully understand the status of the Superfund program today, it is important to understand the process for cleaning up toxic waste sites, as well as how the Superfund program has evolved over the past 25 years.

The Superfund Pipeline

To achieve protection of human health and the environment, the Superfund program takes each site through a process of investigation, study, and finally cleanup, commonly referred to as the "Superfund pipeline."

The Superfund cleanup process begins with site discovery or notification to EPA of possible releases of hazardous substances. Sites are discovered by various parties,

including citizens, but the majority of sites are referred to EPA by State agencies. Once discovered, sites are prescreened. For example, in 2004, approximately 80% of sites were screened out because they posed little or no potential threat to human health or the environment. The remaining 20% of the sites were entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). Next, EPA or the State evaluated the potential for a release of hazardous substances from these sites through a preliminary investigation. This stage screened out 65% of the remaining sites. At the sites still remaining, EPA or the State conducted a site assessment. Another 64% were screened out at this stage, and those that were not, received additional assessment (screening out another 13% of the sites that reach this stage). The data from a site assessment are used to evaluate a site under the Hazard Ranking System (HRS). Sites that score above 28.5 under this system are eligible for NPL listing and, if listed, become eligible for remedial funding.

For the sites that are listed on the NPL, EPA or PRPs, then conduct **further** investigation to determine the most appropriate remedy for the site (called the remedial investigation/feasibility study). This phase culminates with a record of decision, selecting a remedy for the site, following public notice and comment. EPA, or cooperating PRPs, then design and construct the remedial action. Following completion of a remedial action, often operation and maintenance activities often must continue.

In addition, at any point during the site investigation process, EPA may conduct a removal action at a site, to address an emergency situation, an immediate threat to public health, or to jump-start a remedy with an interim action. For example, EPA has provided

alternative water supplies to more than 2 million people to cut off exposure to contaminated water. During the first half of FY 2006, EPA has conducted removal actions at 82 NPL sites.

EPA also conducts searches for PRPs during this process, and takes action to ensure cleanup work is conducted or paid for by those PRPs, rather than by EPA using appropriated dollars. Finally, sites that are screened out during the site investigation process are considered eligible response sites, which are sites that are eligible for funding under EPA's Brownfields Program.

Superfund Program's Early Years

In the 1980's, Superfund was a new program that was just getting started. EPA issued regulations to implement the Superfund program in July 1982, by revising the National Contingency Plan, which was first promulgated under section 311 of the Clean Water Act, to incorporate the Superfund program requirements. In September 1983, EPA promulgated the first National Priorities List (NPL), identifying 406 sites as national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States.

From listing a site on the NPL to the completion of the constructing a remedy, the cleanup process takes more than 10 years, on average. As is discussed later, simple sites may take less time, but more complex sites take considerably longer. As a result, during the early days of the Superfund program, most of the activity understandably centered on the investigation and study phase of the Superfund pipeline.

A Maturing Program

Progress continued throughout the 1980's. However, very few sites were cleaned up. In fact, before 1991, remedies were completed at only 49 sites, 16 of which required no construction. As a result, there was a public perception that the Superfund program was addressing sites too slowly. EPA addressed these issues with two initiatives. First, to leverage federal dollars and increase the number of sites being cleaned up, EPA adopted an "enforcement first" policy in 1991 to require PRPs to perform cleanups, rather than using appropriated dollars and seeking cost recovery. Second, to help explain to the public the progress that the Superfund program had made, in 1993 EPA created the category called "construction completion," and began tracking and reporting the number of Superfund sites where the physical construction of the cleanup remedy was finished.

During the 1990's, many sites that had been placed on the NPL in the 1980s finally moved through the Superfund pipeline. Remedial investigations and feasibility studies were completed. Records of decision selecting remedies were issued. Cleanup remedies were constructed. Between 1991 and 1995, 297 additional sites reached construction completion (33 of which were determined not to need construction).

Despite this progress, the program continued to be criticized that the pace of cleanup was too slow. In response, EPA began aggressively managing the program to achieve construction completions. Between 1996 and 2000, 411 sites achieved the construction completion stage of the pipeline (16 of which were determined not to need construction). However, 162 of these sites cost EPA less than \$1 million per site to achieve construction completion (including both fund lead and PRP lead sites). An

additional 165 cost EPA less than \$5 million. Thus, while the program was achieving on average 82 construction completions per year during this time frame, the vast majority of those sites were smaller, low cost sites, or were PRP sites with low EPA oversight costs.

Between 2001 and 2005, an additional 209 sites have achieved the construction completion phase. If one looked only at construction completions, one could conclude that the pace of cleanup in this country declined. This would be untrue. While the number of low cost sites reaching construction completion declined, the number of costly and complex sites that have reached construction completion has increased. Moreover, cleanup has progressed significantly at the remaining costly, complex sites.

In addition, cleanup of low cost sites is continuing, just not as often through listing on the NPL. During the late 1990's, a fundamental shift in how sites are cleaned up occurred as a result of the development and growth of State cleanup programs and State brownfields programs. Today, less costly and less complex sites, and sites with cooperative PRPs, are much more likely to be addressed through a State cleanup or voluntary cleanup program or a State brownfields program than through the Federal Superfund program.

This trend was not unexpected. In fact, in November 1998, the General Accountability Office (GAO, then called the General Accounting Office) surveyed States and EPA regions regarding all sites that were then in CERCLIS and determined that, of the 3036 sites in the active CERCLIS database in 1997, EPA or a State program identified only 232 sites as potential candidates for NPL listing. The actual number of

sites listed after 1997 is 172 and an additional 59 sites have been proposed to the NPL, totaling 231.

Working with our State partners, EPA Regions now try to identify the most appropriate program to address sites that require cleanup. This may be a State program; it may be the Resource Conservation and Recovery Act (RCRA) corrective action program; it may be the Superfund removal program or the Superfund remedial program and listing on the NPL. As a result, cleanup is continuing through a variety of programs and the NPL has become more of a list of sites that need Federal funding or Federal expertise than a list of all uncontrolled toxic waste sites.

The NPL Universe Today

At this point in the history of the Superfund program, the universe of sites not yet complete and the type of sites being listed on the NPL are very different from the universe of sites on the list 10 years ago. EPA has completed work at many low cost sites that were listed in the past, and new sites in this category are being addressed through other programs. The remaining sites are more complex.

As can be expected given the Superfund pipeline, 893 of the 970 sites that have reached construction completion to date were listed before 1991. At 61% of these sites, only one, or in some cases no remedy required construction. In Superfund parlance, these sites had only one "operable unit" (OU).

It is important to remember that many of the sites that have not reached the construction completion stage have been part of the Superfund program for many years,

but are large, complex sites that simply take more time to address. Of the 583 sites that have not reached the construction completion state, 318 (54%) also were listed before 1991. That means the Superfund program has been addressing these sites for over 15 years, making progress while dealing with technically challenging issues. 367 (63%) of the remaining 583 sites have more than one OU. 189 of the remaining 583 sites have been identified as sites where the remedy costs will have or have the potential to exceed \$50 million (32%). In Superfund parlance, these are called "mega-sites."

Management of Current Superfund Program

Given the complexity of many sites that remain on the NPL, EPA must carefully manage the program. First, management attention and resources are given to the sites that present the greatest risk. Second, actions are taken to protect human health and the environment while remedies to achieve long-term protection are developed and constructed. Third, to ensure efficiency in contracting, the largest sites are managed as long-term construction projects. Fourth, to turn a community blight into a community asset, EPA looks for land revitalization opportunities when developing remedies. Fifth, with so many sites reaching the construction completion stage, attention is now focused on the achievement and maintenance of long-term protection at these sites. Finally, EPA is taking steps to ensure that all Superfund resources are being put to their highest and best use.

Prioritizing Sites Based on Risk

To help EPA manage its funding decisions in a risk-based manner, sites that are ready to begin construction and will be paid for using EPA's appropriated funding are

subject to a rigorous prioritization process. EPA's National Risk-Based Priority Panel reviews new cleanup construction projects as they become ready for EPA funding. The Panel prioritizes the projects based on three factors: protection of human health, protection from significant environmental threats, and potential threats based upon site conditions at the time of review. A number of factors are then used to weigh funding priorities among the sites including: human exposure risk, contaminant characteristics and stability, significant environmental risk, and program management considerations. The Panel is composed of national EPA Superfund program experts from both Regional and Headquarters offices.

Addressing Immediate Risks Through Interim Actions

Even though selection, design and construction of what are often multiple remedies at a site may take many years, EPA can and does take interim actions to address immediate risks to human health. EPA has taken removal actions at 58% of the sites listed on the NPL. For example, EPA did not wait to list the Omaha Lead site on the NPL before taking action to reduce the risk posed to residential communities. EPA started cleanup work in 1999 using Superfund Removal authorities. The site was listed on the NPL in 2003, and using an expedited interim remedy process, is on schedule to have completed cleanups of more than 2000 residential yards by the end of FY 2006.

EPA is developing tools to identify and improve the management of risks at ongoing NPL cleanups. Beginning in 2002, EPA applied the Human Exposure Under Control Environmental Indicator to document the interim progress made towards achieving long-term human health protection by controlling unacceptable human

exposures at NPL sites. This measure tracks the status of whether human health exposures are controlled under current site use. EPA considers human exposure to be *not* under control if, under current site use, there are complete pathways for human exposure to contaminants at levels that present an unacceptable risk. EPA does not require documentation of actual exposure when applying this measure. A complete exposure pathway is sufficient.

As the subcommittee knows, the list of sites where human exposure is not under control is dynamic. Over time, sites are removed and new sites are added, depending on changed site conditions or new information. Since becoming Assistant Administrator, I have made it a priority to improve the quality of the data supporting this environmental indicator so that it can be used to prioritize and manage the program.

Managing "Mega-Sites"

The largest and most complex Superfund sites must be managed as multi-year construction projects. This is particularly true of the "mega-sites" with estimated costs over \$50 million. EPA funded "mega-sites" consume the majority of our resources. In fiscal year 2005, approximately 50% of the Superfund obligations for long-term, on-going cleanup work were committed to just eleven sites. The Agency expects to have a similar situation this year. For this reason, EPA has developed long-term funding plans for a number of complex, costly, sites. These funding plans are based on the construction plans for the sites, and allow EPA to enter into contracts that provide for efficient use of resources.

Land Revitalization

The land revitalization initiative, launched in April 2003, includes all of EPA's cleanup programs as well as partners at all levels of government and in the private and non-profit sectors. The goal of land revitalization is to restore our nation's contaminated land resources and enable America's communities to safely return these properties to beneficial economic, ecological, and societal uses. EPA is ensuring that cleanup programs protect public health, welfare, and the environment; and also ensuring that the anticipated future uses of these lands are fully considered in cleanup decisions.

Experience has taught us that one of the best ways to clean up contaminated sites and to address blighted properties in communities is to expressly consider the future uses of the land. The country has accepted the economic and ecological importance of recycling various consumer products – and our understanding of sound resource management must now also embrace the recycling of contaminated properties.

Post-Construction Completion Strategy

With so many sites now at the construction completion stage, the Superfund program also must focus attention and resources to address post-construction activities to ensure that remedies remain protective over the long term and sites can be returned to productive use.

In October 2005, to ensure that completed sites remain protective of human health and the environment, EPA published its Post Construction Completion Strategy. The strategy was developed to improve site operations and maintenance, remedy performance tracking, institutional control implementation and tracking, and reducing barriers to

beneficial site reuse. Under this strategy, EPA is ensuring that 5-year reviews are completed and any discrepancies identified in the reviews are acted upon. EPA also is developing an Institutional Control Tracking System, to document and make public the institutional controls that are needed to ensure long-term protectiveness.

In addition, EPA is developing a new post-construction completion measure for the Superfund program as part of its FY 2006-2011 Strategic Plan under the Government Performance and Results Act. This new measure will track and target the number of sites that have been made "ready for reuse" by the Superfund program. These are sites that have achieved the cleanup goals and have implemented the institutional controls that ensure long-term protection and allow reuse of land.

EPA already is collecting and will continue to collect and report data on the number of acres that are "ready for reuse" at Superfund sites, even if the entire site is not construction complete, and is working on developing similar information for all of EPA's cleanup programs. Both the new GPRA measure and the ongoing information on acres made "ready for reuse" demonstrate how cleaning up waste sites to protect human health and the environment can produce the accompanying benefit of returning properties to beneficial reuse.

Managing Superfund Resources

EPA is undertaking a number of actions to ensure that Superfund resources are not expended on unnecessary activities and are available to carry out site cleanup work. For example, EPA has:

- Initiated a workforce analysis to determine if staff resources should be reallocated
- Started benchmarking studies of EPA performance
- Shared best practices among the EPA Regions
- Established the Contaminated Sediments Technical Advisory Group, comprised of Agency experts, to provide technical support to Regions with potentially high cost contaminated sediment sites
- Increased the number of sites addressed by the Remedy Review Board, which reviews high cost cleanup remedies, by lowering the threshold cost of remedies that will be reviewed from \$30 million to \$25 million
- Continued to optimize long-term ground water remedies in order to reduce operating costs and restore potential drinking water sources more efficiently
- Aggressively deobligated funds from contracts, grants, cooperative agreements and interagency agreements, resulting in more than \$600 million for new cleanup activities over the past five fiscal years

These efforts are, in part, a result of several studies, including an internal review of the Superfund program, known as the 120-Day Study, which identified opportunities for the Agency to put its resources to better use.

EMERGENCY RESPONSE

EPA's Emergency Response activities are another facet of the Superfund program. The Emergency Response program provides national leadership to prevent, prepare for, and respond to human health and environmental emergencies, including terrorist events. EPA's Superfund Emergency Response program was actively involved

in the response to the events of 9/11 and the subsequent anthrax attacks, and, most recently, in the response to Hurricanes Katrina and Rita.

Beginning on August 25th, 2005, to prepare for Hurricane Katrina, EPA deployed personnel to the Federal Emergency Management Agency (FEMA) National Response Coordination Center and sent On-Scene Coordinators (OSCs) to the Florida, Louisiana, Alabama and Mississippi Emergency Operations Centers. The OSC is the federal official responsible for monitoring or directing responses to all oil spills and hazardous substance releases reported to the federal government. EPA sent additional personnel to the affected areas as soon as travel into the region was possible. In anticipation of Hurricane Rita, EPA also deployed response experts to the multi-agency Regional Response Coordination Center in Denton, TX on September 20th. Nearly 400 EPA staff and contractors are continuing to assist with recovery in the Gulf Coast. EPA's hurricane response related activities are being funded by FEMA under a mission assignment pursuant to the President's disaster declarations for the Gulf Coast.

EPA is the lead federal agency under the National Response Plan for Emergency Support Function (ESF) #10, which addresses oil and hazardous materials, and works with other agencies to provide support for a number of other Emergency Support Functions, including ESF #3, which addresses Public Works and Engineering. Specifically, EPA's responsibilities include preventing, minimizing, or mitigating threats to public health, welfare, or the environment caused by the actual or potential releases of hazardous materials; testing the quality of flood waters, sediments, and air; and assisting with the restoration of the drinking and waste water infrastructure. Also under ESF #3,

the Agency works with the U.S. Army Corps of Engineers to address final disposition of the large volumes of debris from homes, buildings and other structures damaged by Hurricane Katrina. EPA, in coordination with the States, is providing information to both workers and the public about sampling test results, as well as assisting communities with debris disposal and hazardous waste issues.

CONCLUSION

Administrator Johnson and the Bush Administration are fully committed to Superfund's mission, protecting human health and the environment by cleaning up our Nation's worst toxic waste sites. The Superfund program has produced significant accomplishments and EPA is continuing its efforts to manage the program efficiently and effectively in order to protect human health and the environment, and provide opportunities for reuse and redevelopment to communities across the country.