SUPERFUND REMEDIAL PROGRAM REVIEW: FIRST STATUS REPORT

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US EPA

Superfund Remedial Program Review

First Status Report

Purpose

This document presents outcomes of implementing a number of the actions described in the November 2013 Superfund Remedial Program Review (SPR) Action Plan[1]. It also describes ongoing Action Plan efforts and projects future outcomes anticipated in FY 2015 and beyond.

Background

In November 2012, the Superfund Remedial program initiated a comprehensive review of its operations to identify options to maintain its effectiveness in achieving its core mission of protecting human health and the environment in the face of reduced funding. The review builds on recommendations from the 2010 OSWER Integrated Cleanup Initiative (ICI), incorporates actions from ongoing efforts, and includes unique actions developed under the program review. Under the direction of a Steering Committee comprised of Headquarters and regional Superfund Remedial and enforcement personnel, a number of workgroups that span the cleanup process and associated program management functions were established. Several areas considered in the SPR capture important technical developments in the cleanup process, as well as innovations in remedial project management. By implementing these actions, the Superfund remedial program expects to minimize the adverse consequences of budget cuts on its effectiveness in protecting human health and the environment by improving the efficiency of current cleanup processes and maximizing program resources.

Executive Summary and Results to Date

The SPR Action Plan identifies 49 actions or recommendations to improve the efficiency of the Superfund Remedial program by continuing the "managing to completion" approach[2] at both a project and national level. The actions are grouped under two major headings, Cleanup Process and Program Management, and generally seek to improve the speed, effectiveness, transparency and efficiency of the Superfund process. The cleanup processes cover field operations, such as adaptive management, and the assessment, study, design and construction phases of the remedial process. The program management actions outline ways to use internal Agency resources such as acquisitions, budget, in-house expertise and information technology more efficiently to support the Superfund cleanup process.

This report presents the anticipated outcomes of the SPR efforts grouped around four main areas: managing to completion, document development and review, resource management, and information management and dissemination. Implementing multiple actions should allow for

[1] Superfund Remedial Program Review Action Plan http://semspub.epa.gov/src/document/HQ/175850

[2] OSWER Directive 9200.3-69. Action Plan for Managing Superfund Remedial Projects to Completion through the Integrated Cleanup Initiative http://www.epa.gov/oswer/docs/ici/oswer_directive_639175.pdf.

larger, systematic improvements in these four areas. The combined results of all these efforts should also help achieve the broad mission of the SPR, which is to maintain the Superfund Remedial program's effectiveness in protecting human health and the environment in light of sustained budget reductions experienced in recent fiscal years. Also, these efforts, while not formally undertaken as part of EPA's Lean Government Initiative, will promote more efficient and expeditious site cleanups and business practices in the spirit of the initiative[3].

Managing to Completion

In 2010, the Superfund Remedial program advanced managing remedial sites to completion by identifying ways to expedite site cleanups through process efficiencies. The SPR Steering Committee built on this approach and identified further specific elements and activities of the remedial process (e.g., in the study, design, construction and treatment operation phases) to re-engineer remedial work.

The remediation of contaminated sites is a dynamic field in constant change, with continuing improvements in technologies and management approaches. One of these advances is the concept of adaptive site management, an iterative approach to site investigation and remedy implementation whereby project decisions are adjusted in response to new site information and conditions throughout a site's lifecycle. In 2015, the Superfund Remedial program expects to issue a directive to employ adaptive management approaches at remedial sites. The directive will provide examples of existing tools and approaches that leverage the adaptive management process with the overall objective of expeditiously moving sites to completion.

One key application of adaptive management involves long-term groundwater remediation. In May 2014, the program issued a *Groundwater Remedy Completion Strategy*, which is expected to result in implementing more efficient and effective groundwater remedies.[4] The strategy has recommendations to develop site-specific courses of action and decision-making processes to achieve groundwater cleanup goals using an updated conceptual site model, performance metrics and data derived from site-specific remedy evaluations. In November 2014, the Superfund Remedial program held three webinars on the topic in which over 700 individuals including state regulators and engineering consultants participated.

Several actions are underway to improve site characterization and data collection. A new internal directive will reinforce the value of smart scoping and best practices during the remedial investigation and feasibility study (RI/FS). It seeks to improve the RI/FS scoping process by encouraging the commitment of resources and time upfront in order to develop a robust conceptual site model (CSM) and cleanup alternatives that rely on those used at similar sites, as appropriate. Over the past decade, there has been a significant increase in RI/FS costs and in the duration of RI/FS projects, some of which can be attributed to extensive data collection that could be avoided if site information were more effectively managed. Going forward, technical memoranda will present best management practices and provide technical resources for RI and

[3] http://www.epa.gov/lean/government/

[4] OSWER Directive 9200.2-144. Groundwater Remedy Completion Strategy http://semspub.epa.gov/src/document/HQ/175204

CSM development to make data collection more efficient and to highlight how to implement strategic sampling during remedial design and remedial action. These actions are expected to reduce costs from backtracking to fill data gaps in the CSM, and to improve the timeliness of program decisions.

Document Development and Review

Superfund Remedial program efforts require communication with many stakeholders and significant documentation of decisions. Document development, review and distribution are resource intensive processes in Superfund. The SPR studied its operating protocols and identified actions that could help minimize their resource intensity without compromising the quality of document development, review and communication efforts. The following are examples of inter-related actions needed to achieve these improvements and their anticipated results.

Several SPR actions target improvements early in the Superfund process. For example, revising the *Pre-CERCLIS Screening Guidance* will help promote greater consistency and improve decision-making when contaminated sites are first screened for possible inclusion onto the NPL, thereby conserving resources for those sites that merit further evaluation for response under the Superfund program. In addition, the completed effort to *Improve Conciseness in Preparation of HRS Documentation Records* is expected to preserve regional and Headquarters resources in the production and review of the approximately 20 NPL site listing documents prepared each year.

Two actions seek to improve the quality of proposed plans and Records of Decision (RODs). A work group is evaluating ways to continue to improve the process and timing of preparing these documents by promoting earlier and better collaboration between Headquarters and regional program staff. One expected outcome is to reduce the number of proposed plans and draft RODs reviewed by HQ staff. This effort will ensure national consistency of documents, more evenly distribute the development and review of these documents throughout the fiscal year and result in a more efficient use of staff time. Also underway is an effort exploring options to improve the clarity, organization of content and overall readability of proposed plans and RODs so the documents present information in a clear and concise manner. The effort seeks to manage the length and contents of the documents better while ensuring they provide a sufficient record to support remedy selection. Expected outcomes are ensuring transparency in the remedy selection process and reducing staff time to prepare these documents.

Program efficiencies are also expected through improvements to the five-year review (FYR) process. A more efficient FYR process is intended to reduce the financial and management resources needed for conducting FYRs by tailoring the level of information incorporated into the FYR report based on site-specific circumstances. Tailoring information can reduce the number of pages in FYR reports and the management time needed to review them. Pilot projects with the regions have shown that newspaper advertisements to notify the community of the FYR process at a site generally are expensive and may have limited visibility within the community. Moving to web-based communication methods, such as email lists, websites, press releases or podcasts could result in decreased costs while maintaining or increasing community awareness. Site-specific savings may be modest, but they add up when several actions to create a more efficient

FYR process are taken across the roughly 200 nonfederal facility FYRs conducted each fiscal year.

The Superfund site deletion process is an important administrative step in returning sites to productive use, and any efficiencies and savings in the process will be accrued each time a site is deleted from the NPL. EPA investigated potential deletion process improvements to reduce the administrative effort in preparing the documents necessary to delete sites from the NPL. Through this process, unnecessary language was removed from the deletion process templates resulting in briefer deletion documentation. This will reduce the number of pages for each deletion document, thus reducing the costs to publish these deletions in the *Federal Register*. The new templates were posted to EPA's Superfund website in March 2014 for use by regions[5].

Resource Management

The Superfund Remedial program pays for site cleanups through settlements with potentially responsible parties (PRPs) and congressionally appropriated resources. Potentially responsible parties also pay for and perform cleanup activities at sites with EPA oversight. Occasionally, non-liable parties undertake voluntary cleanup activities. The Superfund Remedial program's enacted annual budget decreased by over $100M between FY 2011 ($605.4M) and FY 2014 ($500.0M), making it challenging to maintain the level of work that the program has performed historically. Compared against the FY 2011 baseline, the cumulative funding loss for the four years totals approximately $245M. Many of the remaining cleanup activities and conditions at certain sites require increasingly complex remedies. As outlined in the remainder of this section, several actions in the SPR address more efficient, and in some cases, more creative ways to use limited resources.

Funding actions in the SPR focus on using resources obtained through settlements with PRPs placed in special accounts before using appropriated dollars, providing information to non-liable parties, and adapting budgeting processes to support evolving site operation practices. In recognition of more complex site conditions, multi-phase, multiple design remedies will be considered in future remedial acquisition strategies, allowing the program to make national remedial action (RA) funding decisions earlier in the fiscal year. Through the new Superfund Remedial Acquisition Framework, the Remedial program also has a unique opportunity to leverage its resources in negotiating national contracts. The following are examples of SPR actions which leverage funding.

Actions in the SPR encourage the use of funds available in Superfund special accounts before appropriated dollars for oversight costs, allowing appropriated funds to be used for response activities at other sites for which special account funds may not be available. For example, the Office of Site Remediation and Technology Innovation (OSRTI), on behalf of the Special Accounts Senior Management Committee, issued a memorandum on March 28, 2014, titled, "Use of Special Accounts for Oversight Costs." The memo emphasized the following:

[5] http://www2.epa.gov/superfund/superfund-npl-deletion-federal-register-templates

- Use special account funds for payroll associated with oversight activities;
- Monitor special account balances, future work needs, and the deposit of oversight bills into special accounts to ensure adequate funding is available for EPA to conduct oversight;
- Negotiate the prepayment of oversight costs with PRPs to the extent possible;
- Review older settlement agreements that are silent on the use of special accounts for oversight and create special accounts for these sites when appropriate;
- Clarify EPA policy for retaining funds for oversight costs 15 years past site construction completion; and,
- Clarify the deposit of funds in a special account after reclassification where EPA is still incurring costs for oversight activities.

Another action in the SPR focused on closing special accounts with balances less than $25,000. As a result, the Data Monitoring Plan for Special Accounts was revised in March 2014, requiring Regional Superfund Division Directors to review special accounts with less than $25,000 annually to determine if these accounts should remain open or be closed. By closing accounts with low balances, staff and management time can be focused on other priority work and the Agency's overhead and management costs associated with keeping special accounts open can be reduced.

There are instances where non-liable parties have conducted cleanup at EPA-lead sites, helping conserve EPA funds and support long-term cleanup activities. For example, the University of Portland entered into a Bona Fide Prospective Purchaser Doing Work agreement with EPA to voluntarily investigate and remove contamination at the 35-acre Triangle Park parcel of land at the Portland Harbor Superfund site. The Superfund Remedial program site redevelopment team is producing a fact sheet for EPA staff and prospective non-liable parties. The fact sheet provides information and resources to help support opportunities for non-liable parties to undertake voluntary cleanup activities at Superfund sites, which will facilitate site cleanup and allow for safe site reuse while saving potentially significant amounts of appropriated money that can be used for other sites.

The agency process for managing unliquidated obligations (ULOs) and the Remedial program review of ULOs for potential deobligation results in the burden of duplicate work for the regions. Documentation required for the ULO process and subsequent recertification requests contributed to delaying requests. By revising the ULO Review process and reducing most of the documentation of these processes, regions and Headquarters will be able to complete their funding requests more quickly and earlier in the year with less effort. Funding requests and availability of dollars earlier in the FY will allow for funding decisions and remedial work to be started earlier. Given the Remedial program's current funding appropriations, most appropriated dollars are directed towards maintaining progress at projects started in prior fiscal years. While some new start funding is given in a fiscal year, most of that fiscal year's appropriation is directed to pay for continuing work.

Improvements to the ULO review process are expected to result in earlier deobligations, allowing recertifications to be completed earlier in the year. The new agency-wide ULO review

process will significantly reduce the workload on all program offices, not just the Superfund Remedial program. Instead of reviewing all ULOs, the majority of which are valid and represent active projects, program offices will focus on ULOs meeting criteria related to age, activity level and contract status. The Office of the Chief Financial Officer (OCFO) will provide a tool that will allow for continuous monitoring of these targeted ULOs. This improvement will eliminate unnecessary yearly reviews of valid ULOs, conserving staff time for other activities.

The OCFO tool will include criteria pertaining to the Superfund Remedial program ULO review. Thus, regions will be able to integrate and simultaneously perform the Superfund Remedial program ULO review and the agency-wide requirements to monitor ULO status. Although the OCFO tool will not be available for the fiscal year 2015 ULO review, regions will realize a reduction in workload due to the expected implementation in the spring of 2015. The full integration will take place in 2016.

In 2015, the rollout of the Superfund Remedial Acquisition Framework (RAF) will be underway. Significant time and effort are being placed on working with EPA contracting staff and managers to develop a contracting strategy to guide the acquisition of services in the Superfund Remedial program. Under the proposed RAF approach full service Remedial Action Contracts (RACs) will no longer be used to deliver Superfund Remedial program requirements. Instead, requirements will be met with three different suites of contracts: Design and Engineering Services (DES); Remedial Environmental Services (RES); and Environment Services and Operations (ESO). Market research for this procurement has been completed and we anticipate that competition and refined labor rates will drive costs savings.

The National Risk-Based Priority Panel evaluated potential adjustments to the remedial design/remedial action (RD/RA) regional and national resource management process for senior management consideration. This evaluation has improved coordination of the management and allocation of appropriated resources for both RD and RA projects by the Superfund Remedial program, adopting a recognition of the need for multi-phased, multiple design remedies as part of the site cleanup strategies. As a result, aspects of multi-phased, multiple design remedies will be considered in future program process implementation areas including remedial acquisition strategies and Value Engineering guidance. This evaluation has also allowed the Superfund Remedial program to adjust the timing for making national RA funding decisions to earlier in the fiscal year. This provides an assurance of funds for new RA projects, allowing for an appropriate lead time for regions to coordinate use of limited RD resources. It also maximizes flexibility for using optimal project procurement strategies for delivering RD/RA services.

Each year, analytical chemists in laboratories throughout the United States analyze hundreds of thousands of samples from hazardous waste sites. A goal of the Superfund program is to reduce analytical services costs by leveraging laboratory and management contract vehicles to achieve economies of scale while providing quality and timely services. An opportunity was identified to decrease the number of short turn-around requests (e.g., 7 or 14 days) for analysis. These shorter timeframes cost more than the standard 21-day time frame. By enacting this change, a 21-day turnaround time (TAT) policy will result in the delivery of more analytical services with the same amount or less funding. As an example, the Contract Laboratory Program (CLP) has

increased its use of 21-day TATs from roughly 50 to 95 percent over the past five years. This has resulted in the ability to purchase approximately $1M in additional lab analyses. Another example focuses channeling the program's analytical service needs to more cost-effective sources. This initiative will reinforce the policy that prioritizes the use of regional laboratories (Tier 1) and national analytical contracts (Tier 2) for analyses of Superfund site samples. It is anticipated that adherence to this policy will reduce the cost of analyses and increase the overall quality of data resulting from these analyses.

As Superfund staffing levels and extramural funding for external contract support decrease, the Superfund Remedial program is defining work that can most effectively be done in-house, and helping regions locate those in-house experts across the program to match to their workload needs. A catalog of technical resources/staff currently under development will enable resource managers to identify and access the in-house resources available outside their region. Clear processes for identifying and accessing tools will facilitate and increase usage rates for tools, thereby maximizing agency acquisition and maintenance investments.

Focusing on ways to use Agency funds is a priority in many of the SPR's funding-related actions. Continuing to rely on an "enforcement first" strategy to have potentially liable parties undertake work before expending federal dollars and identifying opportunities to have non-liable parties perform voluntary cleanups will advance site reuse and provide economic benefit to communities while preserving Superfund money. Adopting new practices into internal funding processes is also expected to make it easier to complete funding requests earlier in the year. Additionally, actions include efforts to adjust contracting strategies and use in-house resources to a greater extent. Efforts made to date as well as those expected in the future, as part of the SPR, will help the program adjust to reduced appropriated budgets and support long-term cleanup activities.

Information Management

The Superfund Remedial program maintains information on hazardous waste sites and remedial activities across the nation. Ensuring timely, transparent and accurate site data and information remains a focus in order to manage the program and keep the public informed. The program was an early adopter of information technologies, and an unintended result is that a large volume of data and information was stored in multiple software and web platforms. New information technologies and web platforms are facilitating better integration and accessibility of new and legacy information and data. As with most public and private organizations, Superfund faces a challenge and an opportunity to improve its business processes by embracing these changes. The following are examples of how this is being achieved:

- Information management actions focus on implementing the Superfund Enterprise Management System (SEMS);
- Transforming web content to be more accessible, transparent and lower cost;
- Making the site administrative record accessible to the public electronically; and
- Consistently implementing data management principles across the Remedial program and increasing the digital availability of a site's CSM.

Overall program management actions are also contributing to improved efficiency in operations across the program and at specific sites. As an example, the new, fully integrated SEMS was deployed into production at the end of 2013 and the legacy system (CERCLIS) was retired along with smaller reporting tools (eFacts and ReportLink). The SEMS deployment has been successful in integrating functions that previously existed across multiple systems, such as connecting site documents directly to an activity on the site schedule, and consolidating reporting functions such that one set of logic and report structure is used in order to avoid reporting inconsistencies. While full deployment has not yet been achieved, several hundred users across Headquarters and the regions are learning to use the new SEMS tools.

Fully integrating the SEMS software suite includes the innovative use of new web tools (Web Center) that will allow for dynamic loading of documents from the SEMS repository directly to the public website. This method of web management will significantly reduce the costs of duplicative document storage (in SEMS and separately on web servers) and will reduce the level of effort necessary to maintain an up-to-date public website. The Superfund Remedial program piloted this effort in FY 2014 by loading Administrative Records online directly from SEMS. In March 2013, EPA amended the NCP to add language to broaden the technology, to include computer telecommunications or other electronic avenues that can be used to make the administrative record file available to the public. OSRTI plans to issue guidance on how to implement this amendment, pending the public release of the Administrative Records on the web (ARWeb) National system—the electronic application that can provide administrative record file content in a standardized electronic format on the EPA website. Once the pilot to load Administrative Records to the web is implemented, the effort will progress to replacing the stand-alone ROD and FYR databases, then eventually all adobe (.pdf) documents currently posted on the Superfund website.

In support of the Agency's efforts to improve transparency and citizen access, improve content quality and reduce costs associated with maintaining the public website, the Superfund Remedial program is undertaking a two phase approach to address its online content. Phase 1 consolidates site-specific content that is duplicated on both Headquarters and regional webpages, provides consistent version control of the information, and eliminates the cost of storing this information in multiple locations. Phase 2 involves the consolidation of all other Superfund-related content and will meet the same objectives as Phase 1. Both phases will be completed by December 2015. Preliminary estimates suggest that Superfund's webpages can be reduced from about 6,000 to 100 web pages. Additionally, yearly web maintenance costs are expected to be reduced to less than $50,000 from a current estimate above $1 million.

Recognizing that environmental data and its management are a core component of the Superfund cleanup program, the SPR Data Management workgroup was formed with the mission of developing data management principles that highlight recognized best practices. EPA has learned that by adopting these principles, Superfund sites can realize significant cost savings. For example, at one site yearly data management costs were reduced by 50 percent by adopting national data management tools and developing a site data management plan that outlines data deliverables from site stakeholders. When more broadly implemented, improved site data management is intended to increase the availability of data for a timely analysis and incorporation into a life-cycle CSM, thus reducing uncertainty and building confidence among stakeholders. The group is also working on the Data Management Policy Guidance and is

engaged in the implementation of the Superfund RAF so that these data management principles are consistently implemented across the Superfund program.

The use of new information technologies will help the program more effectively use its data. Fully migrating data to SEMS brings data from multiple systems into a single program and project management system. The innovative use of new web tools will allow for dynamic loading of documents from the SEMS repository directly to the public website which will significantly reduce the costs of duplicative document storage (in SEMS and separately on web servers) and will reduce the level of effort necessary to maintain an up to date public website.

C**onclusion**

OSRTI, the regions and their partners have completed nine of the actions outlined in the SPR Action Plan, including guidance on the development of groundwater remedy completion strategies at sites, deletion process improvements, deployment of SEMS, and guidance on the use of special accounts. In addition, the Superfund Remedial program has made use of RD/RA integration, early actions, and adaptive management practices as factors in determining remedial action funding priorities at sites. Most of the other actions contained in the November 2013 action plan are underway. The Superfund Remedial program intends to continue making progress on implementing these actions and making them part of normal business practices through 2015 and beyond. These actions include, but are not limited to, implementing nontraditional approaches to achieving site cleanups more efficiently for sites approaching RD and RA; improving the Proposed Plan and/or ROD processes; reducing the time and management resources required to conduct roughly 200 FYR reports a year; working with EPA contracting staff and managers to develop a contracting strategy to guide the acquisition of services in the Superfund Remedial program; promoting the concept of work-sharing among various organizations throughout the Agency (e.g., Headquarters to regional offices, regional to regional offices, or Headquarters to Headquarters offices); and encouraging the regions to continue to maximize the use of special accounts for site response work.