

Introduction

Superfund revitalization continues to gain traction, thanks to a recent collaboration that promises to expedite the evaluation and remediation of sites nationwide.

Superfund stakeholders participated in a Roundtable workshop on August 10, 2017, in Washington D.C. More than 40 attendees, including participants from the U.S. Environmental Protection Agency (EPA), state agencies, and responsible private and public parties, met to exchange information and identify best practices within federal and state-level cleanup programs.

The group discussed creative, workable solutions to mitigate the many administrative, technical, and financial barriers to completing environmental cleanups and restoring properties to productive use. Convened by members of The Horinko Group and HSW Engineering, Inc. to foster dialogue among public, private, and nongovernmental stakeholders, the Roundtable provided a timely discussion in follow up to the EPA Superfund Task Force Recommendations document released on July 25, 2017. Meeting attendees discussed principle concepts from the Task Force's recommendations, while brainstorming additional potential solutions to optimize remedies, streamline the process, and promote redevelopment. This Roundtable Summary captures the key concepts, barriers, best practices, and recommendations raised during the meeting discussion.

Refer to Appendix for Roundtable: (A) Topics & Recommendations Summary, (B) Participant List, and (C) Agenda.

Background

The Superfund processes for site characterization; remedy selection, construction, and operation; and environmental closure can be protracted for a variety of reasons. Process-driven approaches with administrative constraints, unclear or unrealistic project objectives, lack of incentives for cleanup, poor communication among stakeholders, and financial limitations are among the reasons for long project life cycles to achieve site restoration and reuse.

In May 2017, the EPA began an initiative to promote expeditious remediation and revitalization of Superfund sites at the directive of Administrator Scott Pruitt. He commissioned a Task Force to "provide recommendations on an expedited timeframe on how the agency can restructure the cleanup process, realign incentives of all involved parties to promote expeditious remediation, reduce the burden on cooperating parties, incentivize parties to remediate sites, encourage private investment in cleanups and sites, and promote the revitalization of properties across the country."

In response to EPA's initiative, The Horinko Group and HSW Engineering, Inc. convened other Superfund stakeholders across the country to collaborate on how to successfully apply performance-based cleanup principles and expedite cleanups nationwide.

Roundtable Presentations

Sean McGinnis, Director of The Horinko Group, commenced the Roundtable with introductory remarks and thanks to all participants. Mr. McGinnis then introduced the Roundtable presenters.

Albert Kelly, Senior Advisor to the Administrator and Superfund Task Force Chair, U.S. EPA, provided keynote remarks. Mr. Kelly recognized the professionalism of the nearly 100 EPA staff that participated in the Superfund Task Force initiative. He shared that the Task Force was assembled to

demonstrate EPA's commitment to getting these sites cleaned up so that the land is safe for those who build, live or play on it. The Superfund Program is not broken; of the 1,343 sites currently on the National Priorities List, 1,180 of these are "construction complete." Mr. Kelly explained that the Task Force Recommendations report is intended to be a living document to be used by the Agency and the Superfund stakeholder community. He explained that there were additional ideas discussed by the Task Force, and although not in the current report, further input may be included in the future as EPA engages with stakeholders on the plan's details. In closing, Mr. Kelly expressed the desire of Administrator Pruitt, through the actions of this Task Force, is to celebrate the successful environmental closure and revitalization of properties with other stakeholders.

Carol Henry Emery, Vice President, HSW Engineering, introduced the Performance-Based Exit Strategy concept and how it can lead to expedited site closure. The first step is to establish clear, realistic, and measurable objectives with the stakeholders. Milestones to achieve these objectives are charted on a project schedule, including closure of data gaps, and this roadmap is laid out through project closure. The key to the strategy lies in decision logic flowcharts that provide if-then scenarios with pre-defined actions, allowing the decision processes to be automated, such as when to right-size systems, optimize them, and acknowledge points of diminishing returns. These actions are followed as milestones are achieved or when course corrections are required to efficiently drive the process toward closure.

The Roundtable continued with a moderated discussion led by Ms. Emery and Mr. McGinnis as summarized below.

Moderated Discussion

What are best practices to streamline the cleanup process and reduce unnecessary burdens?

A common theme among the Roundtable participants was slowed progress in site revitalization stemming from a lack of familiarity and trust among stakeholders. **Face-to-face meetings** at keystone points of a project and with some pre-determined level of frequency builds trust, which allows all parties to move forward in unison.

Further, **coordination among agencies on roles and responsibilities is necessary** to reduce competing interests, and the resultant project delays. **The solution is early inclusion of all parties involved in a project to establish clearly defined objectives and to assign roles, responsibilities, and levels of authority.** A successful model exists through the Agency's "Leaning" of the RCRA Corrective Action process.

Applying sustainable remediation concepts may also improve the program by taking a holistic view of complex projects; incorporating stakeholder engagement throughout the life cycle of the project; and considering the social, environmental, and economic consequences of project decisions.

Even with robust communication efforts, conflict resolution issues among the Agency and responsible parties will remain an important part of the administrative process. **A project champion would be key to resolving communication problems among project team members** – one who is able to recognize the difference between technical and personal disputes, who is willing to accept input from the project team, and who is prepared to work within a formal, yet flexible framework to manage conflicts.

While technical disputes are cumbersome and require resolution, conflicts due to human dynamics are very real, and identifying and resolving these barriers will lead to expedited site cleanups. **Lower level disputes need to be elevated in a timely manner** – identifying dis-incentives for elevating disputes while operationalizing timely elevation is essential.

How might agencies improve/streamline their oversight?

Collection of excessive site data can lead to project delays, and turn sites into “Science Projects.” Thus, it is important to **define the community, responsible party, and regulatory goals of the project early in the cleanup process**. When additional information is requested, **stakeholders should compare the value of new data to the site’s remedial goals** (i.e., **how will the data advance the site cleanup?**). If the data are not essential, then it should not be collected. **Starting with the end in mind is key** – collecting data in hope that an answer will surface is problematic. Key concepts in the ITRC Complex Sites Guidance such as adaptive management, which is also embraced by the Task Force as a key strategy for expediting cleanup, can improve the program.

The Roundtable participants agreed that **updating the conceptual site model (CSM)** may drive data collection; without a current CSM remediation can stray off-course. Further, performance-based environmental management relies on an up-to-date CSM to **compare remediation progress against anticipated performance and determine when course-corrections are needed**. Risks are better prioritized, resources are better balanced, and flexibility becomes more of an intrinsic property for site cleanup when the stakeholders collaborate on performance-based environmental management and maintain a current CSM.

The Roundtable participants recognized that there are volumes of remediation guidance documents, many of which are unique to a particular federal responsible party or stakeholder group, or the EPA itself. There was agreement that as documents become outdated, new documents are produced, but older documents are not being retired, leading to conflicting guidance. The attendees recommended that **out-of-date guidance documents be retired or marked as superseded**.

There is also an observed resistance to innovative or risk-based remediation that can be improved **through internal training and dissemination of best practices among the stakeholders and regulatory agencies**. Continuing education seminars on the latest remediation technologies and discussions of best practices with colleagues are valuable for addressing this issue. Technology transfer is an important tool for promoting projects to be performed cheaper, faster, and better than those that came before them.

Many Roundtable attendees expressed concern that the current Record of Decision (ROD) process results in lengthy, cumbersome decision documents due to concerns over potential litigation and remedy challenges. As a result, there is a reluctance to modify RODs, even if a reopener would expedite site revitalization. The administrative process for the initial development, and subsequent modification, of RODs is a necessity and important to allow the public comment process to proceed. However, **there is a middle ground where RODs can exhibit “flexibility with certainty” to allow for optimization of a remedy** (e.g., downsizing of a technology over time, as a plume is reduced in size and concentration), to focus treatment where it will have the most benefit and allow the use of alternate technologies.

Possible solutions include expanding the presumptive remedies list and allowing these remedies in addition to the approved remedy. Other tools discussed are embedded within the regulations and do not require reopeners: removal processes during the RI/FS in advance of ROD development, Explanation of Significant Differences, and Applicable or Relevant and Appropriate Requirements waivers.

Some sites are on the NPL due to only one or two operable units; however, once these units are addressed, the sites remain on the NPL. These sites could be effectively addressed by delisting them from the NPL and then utilizing appropriate state authorities to complete the final remedial actions.

Additionally, stakeholders offered a perception that there is a risk for responsible parties that an agreement with state agencies can be overruled by the EPA, causing delays in making sustainable cleanup decisions. This concept will require further discussion among stakeholders.

What incentives might be available for parties to remediate and revitalize sites?

A major cost liability for responsible parties is long-term operation, maintenance, and monitoring (OM&M) of the remedy. Options to modify the remedy may be limited by specific conditions in the ROD. **Including a provision in the ROD for optimizing the remedy without having to reopen RODs could be an incentive** to prioritize funding towards other, more meaningful, aspects of site revitalization. Additionally, non-alignment among responsible parties was recognized as a barrier to timely cleanup or reuse of sites. Agencies should consider incentives or conditions that create or maintain alignment among cooperative responsible parties to promote timely remediation or revitalization of sites.

Owners of Superfund properties are reluctant to sell sites with continuing obligations without adequate protections in place. If buyers do not fulfill continuing obligations, then the liability could return to the previous owner. Moreover, there remains a significant challenge in finding developers with substantial assets willing to take on the inherent risk. Developers willing to take on risks need to know the full environmental scope, which is often a challenge with long-term OM&M and environmental covenants. Roundtable participants noted that protections for purchasers are codified in the 2002 Brownfields Amendments to CERCLA, where purchaser liability protections make it difficult to provide similar seller protections. However, the Roundtable recommended **exploring avenues to limit future liability risk to sellers and identify better and more consistent ways to communicate restrictions to land buyers**. A RCRA approach, where the buyer becomes the party responsible for the site following a property transaction, could be one model for transferring liability at CERCLA sites.

Comfort letters are a useful tool in mitigating risk aversion with property transfers. However, these comfort letters are not being used at a great enough frequency to measure their effectiveness. As indicated in the EPA Superfund Task Force Report, **comfort letters should be utilized as an incentive** to help smooth property transactions through education and clarification for site-specific concerns.

While the next “Brownfields” success story is a goal for all stakeholders, there are sites that do not have substantial development value. These sites are often required to remediate to stringent cleanup standards that support unlimited use and unrestricted exposure. Roundtable participants recommended **balancing resources at these sites by applying risk-based closure** to expedite site rehabilitation while maintaining remedy protectiveness. **Greater clarity in Institutional Controls being placed upon a property can influence less restrictive remedies and get sites to closure more effectively.**

What are appropriate next steps for cooperating parties and agencies?

Looking ahead, EPA plans to assign Task Force captains who will be taking the lead on implementing the Superfund Task Force recommendations. EPA will be formally seeking stakeholder input on its recommendations. Furthermore, the Agency is eager to discuss Superfund Pilot Projects to test Task Force recommendations. If stakeholders are interested in specific Task Force recommendations or have sites that would be good candidates for a pilot, please contact EPA.

Stakeholder Coordination and Conflict Resolution

Conduct face-to-face meetings: Misunderstandings among stakeholders can come from a lack of familiarity. Resolving expectations, issues, and uncertainties will expedite cleanup.

Recommendation: Schedule face-to-face meetings among stakeholders early and at a frequency that makes sense for the project team to build mutual trust and allow stakeholders to move forward in unity. Consider concepts from RCRA FIRST.

Coordinate among agencies: Lack of coordination can lead to duplication of effort and will delay project advancement.

Recommendation: Define roles for agencies early, so the correct agency is consulted on project topics. Consider a charter, designate a lead agency, and establish work allocation to reduce administrative burdens. This could have the added benefit of freeing up EPA resources for technology development and analysis.

Resolve conflicts swiftly: While face-to-face meetings can reduce differences through effective communication, stakeholder conflict can nonetheless occur and significantly delay project advancement.

Recommendation: Provide a process for resolving conflicts among stakeholders that acknowledges a willingness to change project leaders if a conflict is due to personality differences. Act to resolve differences at lower levels before going to dispute resolution. Consider concepts from Navy's Tier partnering.

Best Practices

Apply Risk-Based Cleanup: Responsible parties at some sites without specific reuse plans are required to remediate to stringent cleanup standards that support unlimited use and unrestricted exposure. These sites are often of low land value, but with the highest cleanup requirements and little incentive for the responsible party to expedite cleanup. **Recommendation:** Balance resources and apply risk-based closure to expedite site rehabilitation while maintaining remedy protectiveness.

Focus Data Collection on Site Objectives: Collecting excessive data can lead to project delays, and turn sites into "science projects." Defining the site cleanup objectives early will focus the data collection and shorten the cleanup process. **Recommendation:** Assess the value of additional data in meeting site goals (i.e., if the data are not essential for advancing the site cleanup, then they should not be collected).

Maintain Conceptual Site Model: Remediation can stray off-course when the CSM gets out of alignment with site data. Performance-based environmental management relies on the CSM to compare remedial progress to anticipated performance and to determine when course-corrections are needed. **Recommendation:** Focus on the CSM throughout the remedial process and update it as new data are gathered. Use updates to inform remedy optimization decisions and reduce the project life cycle.

Resources and Training

Apply Current Guidance: As new guidance documents are produced, older documents are not being retired, leading to conflicting guidance. **Recommendation:** Retire outdated guidance or clarify in later guidance that it has been superseded. Consider developing new guidance/guidelines for incentivizing reuse – address liability issues, insurance options, risk management, economic development.

Train Staff: Resistance to innovative or risk-based remedial approaches may result from limited training in technical advancements and policy changes. **Recommendation:** Promote attendance at continuing education seminars on the latest remedial approaches and technologies and facilitate technical exchange of best practices among colleagues.

Procedural Flexibility

Issue Shorter, Flexible RODs: Concerns over potential litigation and remedy challenges often lead to lengthy, complex RODs (i.e., hundreds of pages). There is a reluctance to modify RODs due to this complexity, even if a reopener would expedite site revitalization. **Recommendation:** Look to State programs for examples of effective, more concise RODs. Include "flexibility with certainty" in RODs to allow for remedy optimization and expanded use of interim RODs and presumptive remedies.

Delist NPL Sites: Some sites are on the NPL due to only one or two operable units; however, once these units are addressed, the sites may remain on the NPL. **Recommendation:** Review the NPL and delist sites where the OUs have been remediated and then utilize appropriate state authorities to carry out final remedial actions.

Optimize Remedy: A major cost for responsible parties is long-term operation, maintenance, and monitoring of the remedy. Options to modify the remedy may be limited by specific conditions in the ROD. **Recommendation:** Include a provision in the ROD to optimize the remedy without having to reopen the ROD.

Removal Program: Superfund's removal process is faster than the Superfund remedial process. **Recommendation:** Make use of the removal program to expedite cleanup when possible.

Incentivizing Revitalization or Reuse

Manage Seller Risk: Owners of Superfund properties are reluctant to sell sites with continuing obligations without relief from long-term liability. If buyers do not fulfill continuing obligations, then the liability could return to the previous owner. **Recommendation:** Explore avenues to limit future risk to sellers and find better ways to communicate restrictions to land buyers. Possibly use RCRA concepts for transfer of responsibility to the buyer as a model.

Collaborative Solutions: Responsible Parties can be risk averse and not make use of property, even when there is redevelopment value. **Recommendation:** Facilitate collaboration among stakeholders, so they can integrate cleanup and technologies with redevelopment to expedite revitalization.

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Agenda

- 11:45 – 1:00** **Registration, Networking, and Refreshments**
- 1:00 – 1:15** **Welcome and Introductions**
- Sean McGinnis, Director, The Horinko Group*
- Safety, meeting logistics, discussion norms/ground rules
 - Individual introductions and personal hopes for the meeting
- 1:15 – 1:30** **Keynote Remarks**
- Albert Kelly, Senior Advisor to the Administrator, U.S. EPA*
- Prioritizing the Superfund Program
- 1:30 – 1:45** **Discussion Overview and Presentation**
- Carol Henry Emery, Vice President, HSW Engineering*
- Starting with the End in Mind: Exit Strategies for Completing Cleanups
- 1:45 – 3:15** **Moderated Discussions (45-minute sessions)**
1. *Optimize the Remedy* – What are Best Practices to streamline the cleanup process and reduce unnecessary burdens on cooperating parties?
 2. *Streamline the Process* – How can the agencies reduce administrative costs and improve / streamline their oversight?
- 3:15 – 3:30** **Break**
- 3:30 – 5:00** **Moderated Discussions (45-minute sessions)**
3. *Promote Redevelopment* – What would incentivize parties to remediate and redevelop sites? What alternative approaches could be applied to encourage investment?
 4. *Prioritize* – What should the next steps be for cooperating parties and agencies? How should we communicate with stakeholders to achieve the most impact?
- 5:00 – 5:15** **Next Steps and Wrap Up**