



From Paper to Progress: Environmental Restoration Success Stories from DOE Sites

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At the Savannah River Site, Paducah Gaseous Diffusion Plant, and Mound Plant, DOE project managers and their regulators wanted to accelerate their progress toward reaching environmental restoration (ER) goals. To improve the performance of their ER programs, these sites explored integrating decision-based approaches into their management strategies, which had historically been focused on the production of required documents. By establishing practices that emphasized decision-making and open communication between DOE, regulatory agencies, and supporting technical staff, management actions shifted from simply meeting document requirements to focusing on and accelerating cleanup decisions.

A key initiative promoting decision-based approaches used at all three of these sites is the Principles of Environmental Restoration (See Highlight 1) optimization. The ER Principles provide guidelines to focus project teams on decision-making, good communication, and teamwork to better manage project schedules and resources.

Highlight 1: Principles of Environmental Restoration

- Building an effective core team is essential.
- Clear, concise, and accurate problem identification and definition are critical.
- Early identification of likely response actions is possible, prudent, and necessary.
- Uncertainties are inherent and will always need to be managed.

A detailed description of the ER principles can be found in the "Principles of Environmental Restoration" instructional materials at

<http://tis.eh.doe.gov/oepa/workshop/restoration.html>.

Below is a summary of specific applications of the ER Principles at DOE field sites.

Savannah River Site

At the Savannah River Site (SRS), decision makers and project teams realized that for many of their projects the focus on document completion had long overshadowed effective decision-making. In the spring of 1999, DOE-SR, the US Environmental Protection Agency (USEPA), and the South Carolina Department of Health and Environmental Control (SCDHEC) agreed to suspend all milestones on a number of Remedial Investigation/Feasibility Study (RI/FS) projects in order to more clearly define problems, and re-scope potential solutions. Through the efforts of the three agencies and their technical staff, a new approach was developed to improve communication and facilitate decision-making.

This new approach was based on a framework that explicitly links the fundamental ER project decisions (i.e., Is there a problem warranting action and how will that problem be responded to?) to the technical activities that support them. Under the new approach, a core team of representatives with decision-making authority (DOE, USEPA, and SCDHEC) and a project team of technical experts (contractors and agency support staff) convene scoping meetings to make key project decisions. A "scoping summary" captures the decisions made and identifies any remaining uncertainties to be resolved in subsequent project phases. The approach reduces the amount of effort for project documentation by encouraging continuous updates throughout the project, and limiting document requirements to only those directly supporting a decision.

The interagency collaboration and development of the new approach has been readily implemented, and achieved immediate benefits. Projects have achieved significant cost and schedule savings associated with eliminating unnecessary technical analyses and minimizing documentation and review cycles. Savannah River has reduced the number of documents that require more than one revision, and eliminated the formal feasibility study for a number of projects where the agencies reached consensus on the straightforward solution early on.

Perhaps the most significant benefit associated with the approach is the value of the working relationships and trust that the agencies have established by working together.

Paducah Gaseous Diffusion Plant

The agencies overseeing and directing the Paducah Gaseous Diffusion Plant's clean-up effort recognized they needed to make improvements to the current project management approach in order to complete cleanup by 2010. Further, the scrutiny of the clean-up effort was magnified by a series of GAO and DOE-EH audits. These efforts consistently identified that improving communication and teamwork between DOE and their regulators would improve decision-making efficiencies (e.g., fewer document reviews, arriving at consensual decisions quicker, improved baseline estimates), thereby reducing the strain on the site's schedule and budget. As a result, Paducah decided to implement the core team approach to revise the site management plan and subsequent activities.

The core team, consisting of decision makers from DOE, the Kentucky Division of Waste Management, Kentucky Radiation Control Branch, and USEPA Region 4, began by developing a Paducah OU strategy that outlines site wide cleanup priorities and a decision-making process. For each Operable Unit (OU), an OU-specific strategy is developed, which systematically evaluates and prioritizes the solid waste management units (SWMUs). This results in identification of early actions and high priority investigations, allowing the core team to prioritize activities. Once the OU's are identified and prioritized, the core team establishes individual OU project core teams to handle the technical detail of planning and implementation. To support the core team efforts, meetings are scheduled as necessary either in person or via conference calls (currently once a month in person and once through a conference call). During these meetings, the core teams strive for "real-time" consensus on project problem definition and key project decisions, therefore reducing the time spent on document preparation, review, and approval.

As a result of the meetings, the core team has made progress towards establishing effective communication between the agencies and is beginning to make progress towards site cleanup. To date, the core team has come to consensus on the current and future land use and remedial action objectives, facilitating cleanup strategies that are consistent with the site's end state. The team has successfully binned over one-third of the Surface Water OUs in the last four months and expects to complete the binning in December 2000. In addition, the core team has successfully planned and finalized a cleanup strategy for

of the North-South Diversion Ditch that will exceed remedial action objectives.

Mound Plant

At Mound, DOE, USEPA and Ohio EPA identified an opportunity to reduce lifecycle costs and accelerate site closure by changing their approach to decision making. Initially, they had planned to address the plant's ER issues under a set of Operable Units (OUs), each of which would include a number of potential release sites (PRSs). However, after initiating remedial investigations for several OUs, they realized the OU approach was inefficient. As a result, a new approach was developed that would evaluate PRSs as individual units rather than the traditional method of evaluating them in OUs.

Based on the ER principles, the site implemented a new strategy called "Mound 2000" for improving implementation of environmental restoration projects. Under the Mound 2000 strategy, the site and its regulators worked as a core team to reach consensus on all decisions necessary to determine how each PRS should be addressed. Their efforts focused on using existing information to determine if a PRS required "No Further Action", "Further Assessment", or "Removal". Binning the PRSs by using existing information allowed the projects to focus on data collection at only those units where further assessment was required. Straightforward projects with a clear problem could then move directly to action. Further, the core team identified the specific points at which stakeholder input would be solicited. Because the site obtained agreement from the regulators on the appropriate approach for each PRS and reviewed stakeholder input throughout the process, the preferred cleanup approach was readily accepted.

Implementation of the Mound 2000 strategy has successfully, reduced the original life-cycle baseline by 17 years and more than one billion dollars. By following the decision logic of the strategy, DOE and its regulators maximize the use of existing information, ensure all data collection supports decision-making, and capitalize on removal action authorities. The Mound 2000 process also reduces and simplifies the administrative requirements associated with documenting decisions. In addition, stakeholders and the general public have confidence in the public participation process and associated documentation.

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