



technologies and how each is evaluated. RAB members are responsible for keeping the communities that they represent up to date on RI/FS progress.

## HOW IS THE BEST TECHNOLOGY CHOSEN?

A FS determines which cleanup technology would work best at a specific location, taking into account the nature and extent of the contamination, the characteristics of the area, and cost and other considerations. To reach this goal, the FS for Superfund sites proceeds in two phases: the development and screening of cleanup alternatives and a detailed analysis of the cleanup alternatives. To develop a range of cleanup options, potential treatment and containment technologies are identified and combined into alternatives to see how effective they are in protecting human health and the environment. Implementability and cost are also considered.

Next, each alternative technology goes through a second set of criteria. These detailed analysis criteria address regulatory requirements (see sidebar) as well as technical and policy issues.

Finally, alternatives are compared. This process determines the strengths and weaknesses of each alternative. Results of the FS are compiled into an FS report that recommends a final cleanup plan.

## WHAT ARE THE FS GUIDELINES?

The FS process is guided by federal, state, and local laws, which are considered at the beginning as well as throughout the process. Current federal law governing hazardous waste emphasizes permanent treatment and cleanup remedies rather than disposal on land.

CERCLA (1980) and its amendment in 1986 are the primary federal regulations governing the cleanup of Superfund sites. Superfund remedial actions must also meet any additional standards, requirements, or other criteria that are determined to be legally applicable or relevant and appropriate requirements (ARAR). They are the federal, state, and local rules that must be followed.

ARARs are identified during development of the FS as site-specific information becomes available. There are several types of ARARs:

- (1) **Chemical-specific ARARs** define what the maximum contamination levels are at a site. They are an important part of preliminary remediation goals.
- (2) **Location-specific ARARs** set restrictions on activities within sensitive areas such as floodplains and historical sites.
- (3) **Action-specific ARARs** establish minimum technology standards for treatment or disposal activities.

## WHAT'S THE NEXT STEP?

After the FS is completed, the preferred alternative is selected, a proposed plan is prepared, and a Record of Decision is made. Depending on the circumstances of a site, several years may pass before a site is useable for its next designated purpose.

The following nine evaluation criteria serve as the basis for conducting the detailed analyses during the FS.

### Detailed Analysis Criteria

1. **Overall Protection of Human Health and the Environment.** Does the cleanup remedy provide adequate protection? Are the risks eliminated, reduced, or controlled?
2. **Compliance With ARARs.** Will a remedy meet all of the applicable or relevant and appropriate requirements of other federal and state environmental statutes?
3. **Long-Term Effectiveness And Permanence.** Can the remedy maintain reliable protection of human health and the environment over time?
4. **Reduction of Toxicity, Mobility, Or Volume.** How will the treatment technologies perform? How much hazardous waste will be destroyed or treated? What kind of and how much residual waste will remain after treatment?
5. **Short-Term Effectiveness.** Are the community and workers adequately protected during remedial actions? What are the environmental impacts? How long until remedy achieves the objectives?
6. **Implementability.** Is the remedy technically and administratively feasible? Are materials for the remedy available?
7. **Cost.** What are the estimated capital and operating and maintenance costs?
8. **State acceptance.** Does the state have any technical or policy concerns about the remedy?
9. **Community Acceptance.** What are the public's issues and concerns about the remedy?