

Demonstration Projects Spread The Use Of Alternative Technologies

OUST encourages the use of demonstration project sites to help spread the use of alternative cleanup technologies. This guide contains lessons learned from Region 5's experience and other insights that can help regions set up state demonstration projects to gain wider use of alternative technologies.

Demonstration projects spread the use of alternative technologies in the following two ways:

- They educate skeptical state regulators, cleanup contractors, responsible parties, and state fund reviewers about alternative technologies by providing hands-on experience and documentation of cost and performance of alternative technologies.
- They blaze an administrative trail by removing bureaucratic obstacles; they demonstrate how to get approval, permits, and reimbursement for an alternative technology by providing model permits, monitoring plans, and reimbursement documents.

Getting Started

Once a state has agreed to sponsor a demonstration project in mind, making the regulated community aware of it can encourage interested parties to volunteer their sites or services. A demonstration project can be initiated in any one of the following ways:

- By watching for targets of opportunity. For example, a responsible party might be willing to demonstrate a particular technology or to consider solving a problem in a new way. Opportunities can be found in streamlining projects, at consultants days, in meetings, at professional association programs, in journal articles, and even in casual conversations.
- By selecting a technology from the draft matrix of alternative technologies which OUST sent states in September. For example, a state could select a combination of technology and site that could be used other places.
- By pursuing benchmark cost and performance data needed for especially problematic, state-specific hydrogeological conditions, for example, fractured bedrock.
- By identifying special site conditions that are hard to treat with familiar technology. Selecting a low-priority site allows attention and resources to focus on the technical aspects of the work. Selecting a high-priority site can mean that more attention is directed to the project.
- By finding out what skeptics are skeptical about. For example, if decisionmakers are skeptical that bioremediation can attain cleanup levels, set up a bioremediation demonstration project.

Responsible parties and contractors "win" when they participate in a demonstration project. They develop closer, better working relationships with state staffs, and they promote their companies. Regional and state staffers can use these advantages to encourage responsible parties or contractors to conduct some of the work of the demonstration at their own expense.

Once one demonstration project is started, other projects are likely to emerge. As Region 5's projects progressed, Regional staffers made presentations about them. This publicity triggered proposals for more sites and technologies. As new suggestions arose, the Region initiated and supported communications among state staff and site-owners to select and plan the new projects.

Finding Funding

Regions can use the demonstration project funds from OUST as seed money to leverage other sources of funding for parts of the demonstration project work. Other sources of funds are:

- State-lead site funding. The state fund or the LUST Trust Fund may pay for much of the work.
- Responsible party funding. The responsible party may benefit from participation.
- Contractor funding. Contributing resources for a demonstration project help the contractor get more clients for similar cleanups.

Getting work done at no cost to the demonstration makes project funds go further. Regional and state staff should consider:

- Using the expertise and materials from contractors or responsible parties. Some larger companies have in-house expertise in selected alternative technologies. To showcase its capability a company might be willing to incur the cost of contributing expertise or materials to the demonstration.
- Borrowing and adapting materials from Regions. The Region 5 staff has good materials on three remediation technologies (biomounds, bioventing and air sparging) and four site-investigation techniques (cone penetrometry, Geoprobe, ground-penetrating radar, and drill-rig/wells) that it is willing to share.

Where credibility may be at issue, Federal involvement can help. Materials that bear EPA's logo can be more credible than those from a contractor or a responsible party.

Blazing An Administrative Trail

The real success of a demonstration project depends on how smoothly potential users can get approval to use the demonstrated technology. A demonstration project will need to remove administrative obstacles and show others how to get approval, permits, reimbursement, et cetera,

for an alternative technology by providing model permits, monitoring plans, and reimbursement documents. The demonstration project will need to:

- Fix bottlenecks by using streamlining techniques with the people involved in the problem;
- Make an approval flowchart for the technology that shows the state's administrative steps involved in getting approval or reimbursement for using the demonstrated alternative technology; and
- Create packets of examples and instructions to distribute that show how to fill in the necessary state forms, a model proposal, and a state approval flowchart for the demonstrated technology.

Blazing administrative trails clears away barriers that discourage others from using the demonstrated technology. Unfamiliarity with or doubts about the cost, speed, or effectiveness of alternative technologies are still, however, barriers a demonstration project will need to overcome.

Satisfying Information Needs

A demonstration project must show its results credibly if it is to persuade skeptics to use or approve the demonstrated technology at other sites. High-quality data alone will not persuade skeptics to try or approve an alternative technology. Consider these things in planning information about a demonstration project:

- Convince decisionmakers. Identify the questions and doubts people in the region have about the technology and plan data collection to focus documentation on those things;
- Borrow Quality Assurance Project Plans (QAPPs). Consider adapting the comprehensive generic QAPPs developed by Region 5 and the Risk Reduction Engineering Laboratory, other states, contractors, or other responsible parties;
- Document interim results. Expect to need "proof" before the project is complete;
- Plan information for use in training. Design materials that can be reproduced easily and can also be used easily in training workshops about the technology. Region 5 has developed training materials that a state may want to use directly or, as models for other technologies. (Region 5's training materials cover air sparging, soil vapor extraction, low-temperature thermal desorption and bioremediation.)

Plan to use the documentation and other products to conduct training on using the alternative technology and as supplementary materials for other professional presentations. Documentation and other products of the demonstration should be designed to make it easier for others to use the demonstrated technology.

Educating Decisionmakers About The Alternative Technology

If only a few people learn about the demonstrated technology, the project is a failure despite its engineering success. There are a number of ways a state can educate decisionmakers about the alternative technology that is being demonstrated:

- Site-visits. Set up site visits to create a hands-on experience with the technology. Take people to see the site and discuss the technology with the people using it. Produce a one-sheet handout to document the highlights of the site and the technology.
- Consider using a "high-profile" site. Some sites publicize themselves because they are controversial. Such sites, however, can require more staff attention than low-profile sites.
- Professional presentations. Develop a package of vu-graphs and handouts for use in discussing the technology on short notice.
- University-staffed training. Involving a university in the demonstration project can publicize the technology; the professors involved can train others in classes, articles, and consulting.
- Consultants days/all-states meetings. Making presentations on the project at consultants days organized by state agencies and to other states in regional all-states meetings is a great way to reach the target audience.
- "Model" proposal package. Package materials that state staff, contractors, or responsible parties could use to propose using the technology. Include a flow chart of the approval pathway, model permits, and cost-reimbursement forms.
- Newsletter articles. Prepare press releases about the demonstration project that can be published in trade association and other newsletters serving the regulated community.

Who can help plan alternative technology demonstrations

For information about Region 5 demonstration projects call:	For sources of technical expertise about particular technologies call:		For non-technical information call:
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