



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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MEMORANDUM

SUBJECT: Guidance for Implementing Superfund Reform Initiative 9a: Risk Sharing

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Director, Environmental Services Division,
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Attached is guidance developed to support implementation of Superfund Reform Initiative 9a: Risk Sharing. Under this initiative, EPA agrees to share the risk of implementing innovative remediation technologies which have potential for improved performance and reduced costs. The guidance was distributed for Regional review and comment.

EPA's potential exposure is limited to 50% of the cost of the innovative remedy if the remedy fails and if subsequent remedial action is required. As a form of underwriting, this initiative is intended to remove a source of reluctance to try innovative approaches. The guidance provides for review by a technical evaluation panel which will approve promising technologies for risk sharing. Since these will generally be technologies with more potential than risk, actual outlays should be limited. Since the purpose of risk sharing is to encourage use of technologies with potential for application across remedial program and regional boundaries, funding for risk sharing will be handled at the national level.

There is currently one approved risk sharing project underway - a permeable barrier wall technology at

the Somersworth, NH Superfund site. We are currently receiving approximately an inquiry a month regarding this initiative. Several projects have proceeded to the discussion stage.

/s/ Stephen D. Luftig Director, Office of Emergency and Remedial Response	/s/ Walter W. Kovalick, Jr., Ph.D. Director, Technology Innovation Office	/s/ Barry N. Breen Director, Office of Site Remediation Enforcement
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OSWER DIRECTIVE
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GUIDANCE ON INNOVATIVE TECHNOLOGY RISK SHARING

I. Background

Estimates of the eventual cost of cleaning up the nation's hazardous waste sites highlight the need to support the development of more cost-effective cleanup technologies. Potentially responsible parties (PRPs) are sometimes reluctant to implement new technologies due to concerns about having to pay twice[@] if the innovative approach fails to achieve the required levels of cleanup. As part of the Superfund Reform Initiatives, the Technology Innovation Office (TIO) and the Office of Emergency and Remedial Response (OERR) in the Office of Solid Waste and Emergency Response (OSWER), with the assistance of the Office of Site Remediation Enforcement (OSRE) in the Office of Enforcement and Compliance Assurance (OECA), are implementing a program to share the risk of using selected innovative technologies.

II. Purpose

The purposes of this initiative are the following:

- To encourage the demonstration and use of innovative technologies with the potential to lower costs and/or improve performance at a particular site and at other Superfund sites, and to document these early applications to assist future selection of response actions;
- To support developers of promising technologies, especially small businesses, by enhancing contracting opportunities with PRPs; and
- To encourage PRPs to assume a more active role in the development of new technologies for site remediation.

III. Program Description

If the selected innovative response action fails at a project selected for this initiative and a contingent response action is required, EPA intends to use the CERCLA claims procedures to share the cost of the contingent response action (i.e., risk share) in an amount equal to (1) 50% of the estimated cost of the failed innovative response action; (2) 50% of the actually incurred cost of the failed innovative response action; or (3) \$10 million, whichever is the least. If a proposal is submitted to implement a technology developed by a PRP, EPA may risk share at a lower percentage.

Full-scale projects are the focus of this initiative. EPA will consider risk sharing of field pilot-scale proposals only if important information, such as that related to engineering scale-up, will be generated. Early projects will provide insight into how to implement risk sharing as effectively as possible.

EPA's maximum exposure to future remediation costs will be limited to \$40 million for the initial program (and to \$10 million per project as noted above). EPA has established the \$40 million program cap to facilitate fiscal management, but is under no obligation to commit to this level of risk sharing. Furthermore, this cap is based on estimated, not actual, costs. The actual costs of this program may be lower if, for example, pilot sites include ex situ technologies where failure is likely to be evident early in the process.

Only projects conducted by non-federal PRPs are eligible for this initiative, and EPA expects that each risk sharing agreement will be formalized in a settlement agreement in a timely manner. If there are unreasonable delays by the PRPs in formalizing a settlement agreement and implementing the innovative response action, EPA may rescind its risk sharing offer.

Superfund Innovative Technology Evaluation (SITE) program resources may be available to assist in preparing demonstration plans and conducting sampling and analysis.

IV. Process for Candidate Selection

Projects, which may involve either removal or remedial actions, will be nominated by EPA Regional offices. The Regions are encouraged to contact OSWER's Technology Innovation Office (TIO) when they believe a project may be a good candidate for this initiative. Regions may submit risk sharing proposals either before or after a response action has been selected for the site.

Each application should describe the planned innovative project, discuss the proposed criteria and method(s) for evaluating success/failure of the innovative response action, provide cost and time estimates, and provide a schedule for negotiating a settlement agreement. Preliminary and follow-up interactions between Regional and Headquarters staff may be necessary and are encouraged.

Proposals will be reviewed by a Technical Evaluation Panel (TEP) comprised of representatives from the Office of Research and Development, OSWER, the Office of Enforcement and Compliance Assurance, and other offices as appropriate. The panel will be chaired by TIO and will convene as necessary to evaluate applications. EPA Headquarters hopes to complete TEP review within 30 days after receiving a complete application package.

If the innovative response action has already been selected for the site, the TEP will determine whether it is approved for the risk sharing program. If the response action for the site has not yet been selected, the Region may wish to know whether a particular option, if selected, would be eligible for the program. In that case, the TEP would advise as to eligibility, and the Region would decide whether to actually select that response action based on the usual removal or remedial selection criteria.

When considering applications for risk sharing, the panel will apply criteria including the degree to which the technology or application is under-represented in EPA's experience base, and the potential for benefits across the spectrum of remediation programs if the technology is successful. The TEP will not second guess the technical basis for selection of the response action for use at the site.

Determination of project eligibility will be left to the judgment of the TEP, which will generally select proposals based on the needs of the Superfund program. Current needs include alternatives to conventional stabilization processes for metals and other inorganics, in situ technologies in general, in situ ground water techniques, processes to treat non-aqueous phase liquids (especially dense sinkers), techniques for recovery and treatment of wastes in fractured bedrock, technologies for treatment of arsenic and mercury, and technologies for complex waste mixtures.

V. Implementation at Selected Sites

A. In General

For each project selected for this initiative, EPA and the PRPs will negotiate a settlement agreement in the form of a remedial design/remedial action (RD/RA) consent decree for each remedial project or an administrative order on consent (AOC) for each removal project. The settlement agreement will require the PRPs to implement the selected innovative response action and the contingent response action, if necessary. The Region should attach to each such settlement agreement the ROD or Action Memorandum, as appropriate, in which it has selected the innovative response action and, unless impracticable, specified a contingent response action to be implemented in the event that the innovative response action fails to meet the specified performance standards. For any site where an innovative remedy was selected in a ROD which does not specify a contingent remedy, the Region may later need to prepare a ROD amendment or a new ROD if it subsequently determines that a contingent remedy is necessary. For similar situations in the removal context, the Region may need to modify the removal action plan.

As discussed in greater detail below, each settlement agreement should include the following: (1) a provision requiring the PRPs to provide cost and performance data to EPA; (2) a statement of success/failure criteria; (3) a provision allowing EPA to approve modifications to the innovative response action if it believes that such modifications will improve response action performance; and (4) a provision regarding cost sharing in the event the innovative response action fails. Additionally, the settlement agreement should require the PRPs to develop a Technology Evaluation Plan to address specific details regarding submission of data on cost and performance and regarding interim milestones to assess the success or failure of the innovative response action.

B. Cost and Performance Data

A key component of this initiative is the generation of high quality information on response action performance and cost that can be used by other remedial and removal action decision-makers. In addition, in the event that the innovative response action fails, EPA will need to know the actual costs of that response action when calculating the amount of costs that it will share with the PRPs. The settlement agreement should therefore require the PRPs to provide detailed cost and performance data to EPA.

C. Success/Failure Criteria

The development of success/failure criteria is critical to the success of this initiative. The settlement agreement should specify such criteria with as much detail as the technology and application allow. The principal measure of "failure" will most likely be inability to meet required cleanup levels and performance standards. For purposes of this initiative only, other criteria that may be helpful in reaching a conclusion that a response action has "failed" include excessive costs (e.g., caused by reduced throughput or excessive equipment downtime) and exceedance of emission or effluent limits.

If feasible, the settlement agreement should also specify a set of milestone dates or points at which the effectiveness of the innovative response action could be evaluated. The agreement should also state that EPA has the right to declare to the PRPs in writing when and if it has determined that the response action has failed. Innovative response action costs that are incurred after EPA has provided notice of failure will not be included in EPA's reimbursement calculations.

D. Modifications to the Innovative Response Action

In order to improve the performance of a technology that is not achieving required results, it may be necessary to change procedures or make additional capital investments which may improve performance. The settlement agreement should include a provision allowing for, and committing the parties to implement, these modifications. The provision should allow either EPA or the PRPs to propose such modifications and

should give EPA the discretion to approve or deny any such modifications proposed by the PRPs.

E. EPA's Intent to Cost Share in the Event the Innovative Response Action Fails

As noted above, if the selected innovative response action fails at a project selected for this initiative and a contingent response action is required, EPA intends to use the CERCLA claims procedures to share the cost of the contingent response action (i.e., risk share) in an amount equal to (1) 50% of the estimated cost of the failed innovative response action, (2) 50% of the actually incurred cost of the failed innovative response action, or (3) \$10 million, whichever is the least. The settlement agreement should therefore include a provision (1) describing this intent, (2) stating that any such cost sharing is subject to appropriated and unobligated funds being available in the Hazardous Substance Superfund at the time the PRPs are required to implement the contingent response action, and (3) stating that EPA is not obligated to cost share if there are unreasonable delays by the PRPs in implementing the innovative response action. For the purposes of (2) above, timing of funding shall be evaluated by the National Risk-Based Priority Panel against funding needs for other enforcement projects in a given fiscal year. If the innovative technology was developed by the PRPs, the settlement agreement could decrease the 50% figure used in the above calculations.

The provision should also state that when calculating 50% (or other percentage) of the estimated cost of the innovative response action, EPA will not include estimates of any costs that it determines are not directly related to the innovative response action (see Attachment). With respect to EPA's calculation of 50% (or other percentage) of the actually incurred costs of the innovative response action, the provision should state that EPA will use the data on innovative response action costs submitted by the PRPs but will exclude (1) any costs, except for demobilization costs, that are incurred after EPA has stated, in writing, that the response action has failed, and (2) any costs that it determines are not directly related to the innovative response action (see Attachment).

In the event the innovative response action fails and the PRPs are required to implement the contingent response action, EPA will allow the PRPs to use the CERCLA claims procedures to seek reimbursement, subject to the restrictions described above, of some of the costs of the contingent response action. The settlement agreement should therefore require the PRPs, after receiving EPA's notice that the innovative response action has failed, to (1) submit an application for preauthorization of the contingent response action in accordance with the CERCLA claims procedures set forth at 40 C.F.R. Part 307, and (2) comply with 40 C.F.R. Part 307 during all phases of the claim process.

If you have any questions about this document, please call Jim Cummings of TIO at (703) 603-7197, Deniz Ergener of OSRE at (202) 564-4233, or Seth Bruckner of OERR at (703)-603-8766.

NOTICE: The policies and procedures set out in this document are not final agency action, but are intended solely as guidance. They are not intended, nor can they be relied upon, to create any rights enforceable by any party in litigation with the United States. EPA officials may decide to follow the guidance provided in this document, or to act at variance with the guidance, based on an analysis of site-specific circumstances. The Agency also reserves the right to change this guidance at any time without public notice.

Attachment

For the benefit of all parties, EPA should be as specific as possible regarding site activities that EPA will include when calculating 50% (or, if the innovative technology was developed by the PRPs, other percentage) of the estimated and actually incurred costs of the innovative response action. This specificity will facilitate settlement negotiations and response action implementation by minimizing confusion and misunderstandings.

Risk sharing is generally intended to apply strictly to implementation of the innovative response action. Basic site security, such as restricting access to the site using fencing, and provision of alternative water supplies will generally be accomplished before the innovative response action is implemented and will not be eligible for risk sharing. In contrast, security associated with a specific component of the innovative response action, such as a treatment unit, may be eligible for risk sharing.

The following list is intended to be illustrative. Other activities, such as site- or technology-specific activities, may occur at sites selected for this initiative.

<u>Activity</u>	<u>Eligibility</u>
1) Site Security	NO (Should already be in place)
- Access Control	
- Security Personnel	
2) Alternative Water Supplies, Relocation, and Other Unrelated Operable Units	NO
3) Permitting and Regulatory Affairs Costs	NO
4) Work Plans (Implementation, Health and Safety)	YES
5) Remedial Design Activities	YES
6) Treatability Studies Performed After the Settlement Agreement Has Been Entered Into	YES
7) PRP's Intramural Oversight Costs	NO
8) Bid Contingency/Profit Components	YES
9) Legal Costs	NO