UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

OSWER Directive 9200.4-14

MEMORANDUM

SUBJECT: Consistent Implementation of the FY 1993 Guidance on Technical Impracticability of Ground-Water Restoration at Superfund Sites

FROM: Stephen D. Luftig, Acting Director
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Steve Luftig

TO: Director, Waste Management Division
Regions I, IV, V, VII
Director, Emergency and Remedial Response Division
Region II
Director, Hazardous Waste Management Division
Regions III, VI, VIII, IX
Director, Hazardous Waste Division
Region X
Director, Environmental Services Division
Regions I, VI, VII

Purpose

This memorandum addresses implementation of the OSWER guidance entitled "Guidance for Evaluating the Technical Impracticability of Ground-Water Restoration," dated September, 1993[1]. As you recall, the purpose of the guidance is to clarify how to determine when ARAR-based cleanup levels may be waived for reasons of technical impracticability.

The purpose of this memorandum is to:

- Promote national consistency in technical impracticability (TI) decision making;
- Facilitate transfer of information pertinent to TI decisions between Headquarters and the Regions;
- Identify the appropriate persons to conduct reviews of TI-related documents; and

[1]OSWER Publication 9234.2-25.

- Clarify the role of Headquarters consultation.

Background

Ground-water contamination, confirmed at 85 percent of National Priorities List sites, continues to be of critical importance to the Superfund program. The remediation of the most highly contaminated sites, however, such as those with DNAPLs, presents both technical and policy challenges. While EPA remains firmly committed to restoring contaminated ground water to beneficial uses at Superfund sites, it is also important to recognize that technical limitations to achieving this goal may exist.

The goal of ground-water cleanup at Superfund sites continues to be restoration of contaminated ground water to ARAR-based cleanup levels wherever technically practicable. However, evaluations of "pump and treat" remedies published by EPA in 1989 and 1992 indicated that complete restoration of many ground-water contamination sites in the Superfund program might not be technically practicable with available remediation technologies due to the presence of non-recoverable DNAPLs, or for other reasons related to complex site hydrogeology or contaminant characteristics. Where such factors constrain ground-water restoration, the Superfund program's approach is to emphasize removal or treatment of source materials; containment of non-restorable source areas; and restoration of aqueous contaminant plumes.

The National Research Council's recently released report "Alternatives for Ground Water Cleanup" independently confirmed EPA's findings that available ground-water remediation technologies are limited in their ability to restore all portions of contaminated ground-water sites. However, the NRC report also pointed out that, despite these constraints: 1) Non-restorable areas at complex sites generally constitute relatively small portions of the overall ground-water contamination problem; and 2) Pump and treat and other technologies are capable of restoring large portions of such sites, and of providing significant environmental benefits. The NRC report is therefore consistent with the current Superfund approach to ground-water remediation.

The close scrutiny of EPA's approach to ground-water cleanup, evidenced during the Superfund reauthorization debate and in the NRC report, illustrates the importance of sound implementation of ground-water cleanup. Therefore, there is a great deal of attention being placed on how EPA implements the technical impracticability guidance. The TI guidance clarifies Superfund ground-water policy, and provides direction for collecting, analyzing, and presenting the information needed to determine whether restoration of contaminated ground water is

technically impracticable.

A typical TI "evaluation" should consist of a concise stand-alone report, or a section in a site characterization document such as an RI/FS. Reviews of TI evaluations will require site-specific decisions regarding data sufficiency, the methods of data analysis, and the selection of appropriate alternative remedial strategies where total restoration is technically impracticable. Each of these facets of a TI decision is potentially complex and resource intensive.

Technical impracticability decisions may be made as soon as sufficient information is available to demonstrate that such a finding is appropriate. From a practical perspective, this generally will be at one of three points in the remediation decision process:

- A "front-end" decision made at the time of the ROD, based on site characterization and feasibility study data alone;
- A decision made at the time of the ROD, but based in part on pilot test or early remedial action performance; or
- A post-ROD decision based on a pilot test or a ground-water restoration remedy's performance.

Note that front-end TI decisions will require very thorough site characterization and feasibility study analyses, and generally will be appropriate at sites with severe contamination problems (e.g., non-recoverable NAPL contamination in complex geologic environments such as heterogeneous soil deposits or fractured bedrock). The TI guidance provides recommendations for the types of site data and data analyses generally needed for front-end TI evaluations.

The guidance also highlights the usefulness of a phased approach to ground-water remediation that employs early actions (e.g., source removal, source containment, or plume containment) because such actions not only reduce site risks, but may also be used to provide more accurate data on which to base subsequent decisions concerning the restoration potential of the site.

Objective

The objective of this memo is to promote technically sound, nationally consistent implementation of the technical impracticability guidance. Specifically, this memo: 1) Establishes points of contact in Headquarters for transfer of TI-related information and for document reviews; 2) Requests that the Regions identify a person or persons as points of contact on TI issues and reviews; and 3) Outlines a basic process for evaluating TI decision documents.

Implementation

Communications and Points of Contact

Regional managers, in consultation with Headquarters, may make a significant number of TI decisions during the remainder of FY 95 and beyond. Reviews may be resource intensive, and require input from several different sources. To help facilitate these reviews, to assist the involved offices in planning for their respective resource commitments, and to help monitor the progress of guidance implementation, we are promoting regular, periodic communication among points of contact to be established in the Regions, Headquarters, and ORD.

Regional Point of Contact. A point of contact (either a person or small team of individuals) should be identified within each Region to serve as a source of information on the TI guidance to regional staff. Where appropriate, the contacts will assist RPMs, ORC attorneys, and other staff by referring them to support personnel (e.g., in-house or ORD technical specialists) for additional assistance. This person or team would also provide a valuable communication link between Headquarters, ORD, and the Region to facilitate the transfer of information regarding TI decisions.

The regional contact person (or team) may be a member(s) of the technical support staff or other person(s) knowledgeable in both the technical and policy aspects of ground-water remediation. For example, several members of the regional Ground Water Forum have expressed an interest in being the point of contact, as the Forum was actively involved in the development of the TI guidance. The names of the Ground Water Forum members in the Superfund program are provided at the end of this memorandum.

Please provide the name or names of the regional contact persons to me through Peter Feldman of the Hazardous Site Control Division by February 24, 1995.

Headquarters Contacts. The current OERR point of contact for TI-related issues and consultations is Peter Feldman of the Hazardous Site Control Division (703-603-8768). The OERR contact will assist in the review of TI evaluations, provide a national perspective on similar decisions, and coordinate Headquarters consultations. The OERR point of contact may also be reached through other Headquarters Regional Coordinators, who will be assisting in the implementation of this guidance.

The current OGC point of contact is George Wyeth (202-260-7726). The OGC may be consulted on an as-needed basis to evaluate any statutory or regulatory concerns.

ORD Contacts. ORD laboratories can provide specialized,

site-specific technical support in a number of areas related to TI evaluations. The laboratories, through the Technical Support Project, offer the Regions consultation services by scientists with experience in site characterization and remediation. Review of technical impracticability evaluations may require skills in such specialized areas as computer modeling and bioremediation; the support services offered by ORD may prove crucial in determining the technical merits of such TI evaluations. The appropriate general contact for TI issues and site-specific consultations is Don Draper, Director of the Technical Support Program at the R.S. Kerr Laboratory in Ada, OK (405-436-8603).

Conference Calls. Regular communication between the points of contact will be established to share information and experience related to implementing the TI guidance, and to assist ORD and Headquarters to plan for the volume of TI reviews that may be required. This will be implemented through a bimonthly or quarterly conference call in which all the Regional, ORD, and Headquarters points of contact will participate, with limited space for other interested parties. The precise format of this communication system will be determined in an initial conference call, once the points of contact have been identified. OERR will coordinate the conference call; the initial call will be conducted in early March, 1995.

TI Decision Review Process

Decisions regarding TI ARAR waivers will be made by the Regional Administrator or Division Director, as appropriate, based on recommendations provided by ORD, Regional, and Headquarters reviewers.

The TI review team. TI decisions generally will require a significant amount of review, particularly from a technical perspective, but also from legal and policy perspectives. A Regionally-led team should be established to review TI waiver evaluations from PRPs, as well as those developed by EPA or the State. Based on experience gained on reviews of TI evaluations by Regional staff to date, the review team generally includes the following:

- RPM and first line supervisor;
- ORC site attorney;
- Ground-water specialist (ORD and/or a Regional scientist);
- State representative (as appropriate)
- Regional ROD peer reviewer (where available);
- HQ OERR representative;
- HQ OGC representative (on an as-needed basis); and
- Human health and ecological risk assessors (as appropriate).

Representatives from ORD, OERR, and OGC will either be the points of contact discussed above, or other individuals who will

be designated on a site-specific basis. The ORD reviewer will assist the Region in assessing the technical merits of specific TI evaluations; the Headquarters reviewers will provide the Region with the national perspective on TI decisions and provide assistance on legal or programmatic issues.

Review Process. The review process generally will consist of the following steps:

1. Technical review by the review team members to determine whether the TI evaluation is sufficiently complete, and whether it provides a technically sound justification for invoking the TI waiver. The evaluation should be revised based on review team comments until it meets these criteria.

2. Consultation with the Director of the Hazardous Site Control Division of Headquarters OERR.

3. Regional decision on the waiver, which is then generally incorporated into a ROD or ROD amendment. The TI evaluation should also be entered into the Administrative Record.

Scheduling Reviews. As TI reviews may require detailed evaluation of technical materials, a sufficient amount of time (four to eight weeks) should be built into the project schedule to permit Regional, ORD, and Headquarters participants to conduct thorough reviews.

Headquarters Consultation. The ROD consultation process, begun in 1985, fosters communication between the Regions and Headquarters on implementation of key aspects of the Superfund program. Consultation on TI ARAR waivers in RODs, which was identified in the Twenty Fifth Remedy Delegation Report (October 1993), will continue to be OERR policy. The consultation will be for RODs, ROD amendments, and ESDs invoking a TI ARAR waiver.

Consultation on TI ARAR waivers is intended to provide the Regions with a national perspective on similar decisions, and to identify any potentially significant precedent-setting issues at particular sites. This input should prove useful to Regional decision makers because relatively few sites have been through the TI review process; in addition, there are a number of technical and enforcement concerns that are likely to factor into site-specific decisions that also will be of interest to the national program.

Where an appropriate team has been involved throughout the review process leading up to the consultation, it is anticipated that the consultation will be relatively brief. The Headquarters contact within OERR (Peter Feldman) or the OERR Regional Coordinator should therefore be notified as early as possible of any impending TI waiver decision so as to expedite the review and

consultation process.

For further information regarding the technical impracticability guidance and review process, please contact Peter Feldman of my staff at (703) 603-8768.

cc: Elliott P. Laws, Assistant Administrator
Timothy Fields, Jr., Deputy Assistant Administrator
Regional Superfund Section and Branch Chiefs
OSWER Office Directors
Clint Hall, ORD/RSKERL
Lisa Friedman, OGC
Bruce Diamond, OSRE
Regional Ground Water Forum (Superfund):

Region I:	Yoon-Jean Choi, Dick Willey
Region II:	Alison Hess, Ruth Izraeli, Kevin Willis
Region III:	Nancy Cichowicz, Kathy Davies, Dave Kargbo
Region IV:	Tony Best, Ralph Howard; Diane Guthrie (ESD), Kay Wischkaemper (GWP)
Region V:	Luanne Vanderpool, Doug Yeskis; Steve Mangion (ORD)
Region VI:	Bert Gorrod
Region VII:	Bill Pedicino
Region VIII:	Darcy Campbell, Paul Osborne
Region IX:	Richard Freitas, Herb Levine
Region X:	Howard Orlean; Rene Fuentes (ESD), Bernard Zavala (ESD)