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OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

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MEMORANDUM

SUBJECT: Addendum to Policy for "Close Out Procedures for National Priorities List Sites"

FROM: Michael B. Cook, Director
Office of Superfund Remediation and Technology Innovation

TO: Superfund National Policy Managers, Regions 1 - 10

Purpose

This document provides an addendum to the U.S. Environmental Protection Agency (EPA) guidance entitled: Close Out Procedures for National Priorities List Sites, EPA 540-R-98-016, OSWER Directive 9320.2-09A-P, January 2000. This memorandum clarifies the criteria Regions should use to evaluate site-wide construction completion for in-situ ground water restoration remedies at Superfund sites, for purposes of that guidance.

Background

For a site being cleaned up under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or "Superfund"), site-wide construction completion typically is achieved when physical construction of all cleanup actions are complete, all immediate threats have been addressed, and all long-term threats are under control for all portions of the site. The completion of the last response action at a site generally determines when it becomes eligible for construction completion status. This document provides definitions Regions should use for determining construction completion when the last response action is a ground water restoration remedy and an in-situ treatment technology is used for restoring ground water quality. For monitored natural attenuation response actions without any additional in-situ technology, guidelines previously established in the Close Out Procedures guidance for determining ground water restoration remedy construction completion eligibility should be utilized.

This document provides guidance to EPA staff. It also provides guidance to the public and to the regulated community on the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The guidance is designed to describe EPA's national policy. The document does not, however, substitute for EPA's statutes or regulations, nor is it a regulation itself. Thus, it cannot impose legally-binding requirements on EPA, States, or the regulated community, and may not apply to a particular situation based upon the circumstances. EPA may change this guidance in the future, as appropriate.

Evaluating "Construction Complete" for In-Situ Remedies for Ground Water

In-situ treatment remedies for ground water could include chemical oxidation, other types of chemical treatment, biological treatment, thermal treatment (using steam or other heating methods), air sparging, permeable reactive barriers, and other methods. In-situ treatment remedies for ground water typically involve adding treatment agents to the subsurface. Treatment agents could include chemical agents (e.g., oxidants, or surfactants); agents to facilitate microbiological activity; heating agents (e.g., steam, or electric current); physical reactants (such as zero valent iron, oxygen or air); or other agents.

Generally, these in-situ treatment remedies for restoration of ground water may be considered construction complete when the following activities have been completed and completion of each activity has been documented in a construction completion site Preliminary Close-Out Report:

1. Physical construction for all portions of the final remedy should be complete.

Physical construction of all portions of the full-scale remedy should be complete, including injection wells, metering systems or other components needed to place or control movement of treatment agents in the subsurface.

If a permeable reactive barrier (PRB) is used, physical construction of all components of the barrier system, including reactive and non-reactive segments of the barrier, should be completed.

If a pump and treat system is part of the ground water restoration remedy, physical construction of all components of the pump and treat system should also be completed.

If no physical construction is needed for the full-scale remedy (e.g., existing injection wells or monitoring wells will be used), construction may be considered complete when final design of the full-scale remedy is completed. In this case, the final design report should specify the treatment agents to be used, the method for placing treatment agents in the subsurface, and the location and design of injection wells (or equivalent) to be used for the full-scale remedy. Also, any

treatability tests needed for design of the final remedy should have been completed.

2. At least one round of treatment/agent addition has been initiated, for the full-scale remedy.

If different agents are to be added in stages, at least one round of the first stage should have been completed.

- For electrical resistive heating and thermal conductive heating, this typically would mean turning on the power for electrodes or heater elements.
- For steam enhanced extraction, this normally would mean commencement of steam generation.
- For in-situ chemical oxidation and surfactant/co-solvent flushing, this usually would mean initial agent addition.
- For a permeable reactive barrier (PRB), the treatment agent (reactive barrier material) should have been placed during remedy construction.

If Geoprobe[tm] points (or similar) are to be used for injection of treatment agents, injection points needed for at least the first round of treatment should have been installed.

3. The pre-final inspection should have been conducted and should indicate the remedy will perform as designed and any expected future adjustments are likely to be minimal in nature.

Replacement of existing injection wells or installation of additional injection wells (or equivalent devices used to place treatments agents) generally may be considered to be adjustments that are minimal in nature.

If a contingency remedy was selected in the Record of Decision (ROD), the construction completion site Preliminary Close-Out Report should state that use of the contingency remedy is not anticipated at this site.

Conclusion

The information provided in this document should be used by remedial project managers when drafting Construction Completion site Preliminary Close-Out Reports beginning in Fiscal Year 2006. The criteria included should serve as a guide for the type of information to include with regard to in-situ ground water remedies when documenting site construction completion. If

you have questions regarding this policy, please contact me or have your staff contact Richard Jeng at (703) 603-8749 (jeng.richard@epa.gov).

cc: Eric Steinhaus, Superfund Lead Region Coordinator, US EPA Region 8
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