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Close Out Procedures for National Priorities List Sites

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Office of Emergency and Remedial Response
U.S. Environmental Protection Agency
Washington, D.C. 20460

ABSTRACT

This guidance document describes the key principles and expectations, interspersed with "best practices" based on program experience, that should be consulted at the time to Close Out Superfund's National Priorities List Sites. The Close Out Procedures for National Priorities List Sites are organized into five principal areas: Remedial Action Completion, Construction Completion, Site Completion, Site Deletion and Partial Deletion. The purpose of the guidance is to briefly summarize key elements of the various close out options for actions at sites. EPA believes that consistent application of national policy and guidance is an important means by which we ensure reasonableness, predictability, and consistency in our decisions.

TO OBTAIN DOCUMENT

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1.0 INTRODUCTION

This guidance document is designed primarily for U.S. Environmental Protection Agency's (EPA's) Remedial Project Managers (RPMs). It describes the process for accomplishing remedial action completion, construction completion, site completion, and site deletion. The guidance applies only to those sites that are or were final on the National Priorities List (NPL). It supersedes the following documents:

- Office of Solid Waste and Emergency Response (OSWER) Directive 9320.2-3A, "Procedures for Completion and Deletion of National Priorities List Sites," April 1989,
- OSWER Directive 9320.2-3B, "Update to the Procedures for Completion and Deletion of National Priorities List Sites," Guidance Document Regarding the Performance of Five-Year Reviews," December 29, 1989,
- OERR Fact Sheet, "Remedial Action Report," June 1992,
- OSWER Directive 9320.2-3C, "Update No. 2 to Procedures for Completion and Deletion of NPL Sites," February 19, 1992,
- OSWER memorandum, "Documentation of Close Out Requirements at Sites Where There is a No Action Record of Decision," February 2, 1993,
- "Superfund Completion Care Package," 2nd Edition, May 1993,
- OSWER Directive 9320.2-06, "NPL Construction Completion Definition at Bioremediation and Soil Vapor Extraction Sites," June 21, 1993, and
- OSWER Directive 9320.2-09, "Close Out Procedures for National Priorities List Sites," August 1995.

1.1 Background

Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), requires EPA to maintain an NPL of uncontrolled hazardous waste sites that have released or pose a threat of release of hazardous substances into the environment. Pursuant to the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 Code of Federal Regulations [CFR Part 300), sites on the NPL are eligible for Superfund-financed remedial actions (RAs).

Superfund addresses NPL sites through a combination of removal and remedial authority. Cleanup activities under removal authority achieve prompt risk reduction through emergency, time-critical, and non time-critical actions. In general, cleanup actions under removal authority are documented with an Action Memorandum or an Engineering Evaluation / Cost Assessment.

Cleanup activities under remedial authority are called remedial actions. A remedial investigation / feasibility study (RI/FS) at an NPL site determines the nature and extent of contamination, and identifies alternatives for the remedy. The Record of Decision (ROD) documents the remedial activities selected to achieve protectiveness. (For pre-SARA sites, detailed remedial activities sometimes may be described in other EPA reports such as a consent decree or an administrative order). Remedial actions (RAs) are intended to protect human health and the environment, and they may include any combination of treatment, containment, or removal of contaminated material, providing alternate water supplies, and imposing institutional controls that address site use.

1.2 Contents of the Guidance

A Superfund site may require several RAs to address all the site hazards. The process for Remedial Action completion is described in Chapter 2 of this guidance.

Once physical construction is complete at the entire site (through removal or remedial authority), the site achieves the **construction completion** milestone. EPA introduced the **construction completion** milestone to better communicate the successful completion of site construction activities. **Construction completion** marks the end of an important phase in the Superfund completion process. EPA Headquarters monitors and reports site progress toward the **construction completion** milestone. The process for **construction completion** is described in Chapter 3.

Site completion occurs when no further response is required at the site, **all cleanup goals have been achieved**, and the site is deemed protective of human health and the environment. Once **site completion** is achieved, the site becomes a candidate for NPL deletion. Chapter 4 covers the site completion milestone.

When no further response is required at a site or a portion of the site, all cleanup goals have been achieved, and the site or portion of the site is deemed protective of human health and the environment, the site is eligible for **full or partial deletion** from the NPL. This stage, as dictated by the NCP, is known as site deletion. Essentially, this process entails documenting the response activities for the site, verifying and documenting that activities have been conducted and that the site is protective of human health and the environment, obtaining State concurrence, and offering the public an opportunity for notice and comment before the site is formally deleted from the NPL. The process is further described in Chapters 5 and 6.

This guidance provides detailed information on achieving the various milestones of the NPL site close out process, highlighting specific activities and the related reports that indicate each activity's completion. Appendices A through I provide examples of the reports discussed. Appendices J and K are reference materials to be used with this guidance.

OSWER Directive No. 9200.4-22A, "CERCLA Coordination With Natural Resource Trustees" dated July 31, 1997, requires that Trustees listed in the Regional Contingency Plans be notified of the completion of construction at each operable unit. The guidance also indicates that EPA will seek to consult with Trustees prior to deleting a site from the NPL. In response to the requirements of the "CERCLA Coordination With Natural Resource Trustees" guidance, appropriate language has been added to this document addressing the notification requirements.

This guidance replaces OSWER Directive 9320.2-09, "Close Out Procedures for National Priorities List Sites," August 1995. The effective date of this guidance is January 1, 2000.

1.3 Remedial Project Manager Role

The RPM has lead responsibility for ensuring the successful completion of cleanup activities at an NPL site and for guiding a site through each successive phase of the Superfund process. This guidance document emphasizes the role of the RPM during the final stages of site remediation. The RPM is responsible for applying EPA's criteria to a site to determine its eligibility for achieving each milestone. The RPM ensures that all statutory, regulatory, and policy requirements are met, both technically and procedurally. Each milestone is documented by a specific report. The RPM should carefully document all site activities for related reporting needs.

2.0 REMEDIAL ACTION COMPLETION

2.1 Introduction

This chapter describes the procedures for achieving Remedial Action (RA) Completion at an Operable Unit (OU), or portion, of a National Priorities List (NPL) site. Remedial actions can only be funded at sites that are final on the NPL. A RA is the implementation of the remedy selected in the Record of Decision (ROD). Typically, the ROD identifies an OU of the overall site cleanup plan.

During the remedial design (RD) and RA stages, an OU can be broken into phases to accelerate implementation of the OU. These phases enable adjustment of the internal steps required to complete each OU. Each phase becomes a separate RA sequence under the OU. For purposes of this chapter, the discussion will assume that each OU has one RA and, hence, one RA Completion. If the Region chooses to phase OU implementation, then there is a separate RA Completion for each phase of the OU.

2.2 Remedial Action (RA) Completion Definition

RA Completion for an OU is achieved when the designated Regional official (Branch Chief or above, as determined by the EPA Region) approves in writing the Interim or Final RA Report.

The submission and type (Interim or Final) of RA Report prepared varies depending on the type of remedy that was implemented. Exhibit 2-1 provides examples of RAs and indicates when RA Completion can be achieved.

EXHIBIT 2-1, Remedial Action Completion Examples

Example RA	RA is Complete
Excavation and off-site disposal of contamination.	After all wastes have been excavated, removed from the site to an approved location, site has been restored, cleanup goals have been achieved, and the Final RA Report is approved.
On-site treatment of wastes, other than ground water or surface water, to achieve cleanup goals (e.g., soil vapor extraction, bioremediation, incineration).	After cleanup goals have been achieved for the treated wastes, site has been restored, and the Final RA Report is approved.
Containment remedies.	After construction of the designed remedy is complete, cleanup goals have been achieved, and the Final RA Report is approved.
Ground water and surface water restoration remedies that involve active treatment to reduce contaminant concentrations to meet cleanup goals.	After construction of the treatment plant and monitoring system are completed, the plant / system is operating as intended (also called operational and functional, O&F), and the Interim RA Report is approved. (The Final RA Report is prepared when cleanup goals are achieved.)
Ground water and surface water restoration remedies that involve monitored natural attenuation to reduce contaminant concentrations to meet cleanup goals.	After the ROD is signed, any necessary RA is conducted, and the Interim RA Report is approved. (The Final RA Report is prepared when cleanup goals are achieved.)

Example RA	RA is Complete
Ground water and surface water restoration remedies where restoration is later determined to be technically impracticable (TI waiver).	RA completion has already been documented by an Interim RA Report, as above; however, the Region must later prepare a ROD Amendment to document the TI waiver.

2.2.1 Interim RA Report

The Interim RA Report for a given OU is used **only** for RAs that include ground- or surface-water restoration remedies, including monitored natural attenuation. Interim reports are used because of the long delay between construction of the treatment facility (or ROD signature for monitored natural attenuation) and achievement of cleanup goals. Criteria for EPA approval of the Interim RA Report are:

- The remedy includes ground water or surface water restoration, with active treatment or monitored natural attenuation, to reduce contaminant concentrations to meet cleanup goals (and cleanup goals have not been achieved);
- For active treatment, the construction of the treatment system is completed, and the system is operating as intended (operational & functional);
- For monitored natural attenuation, any necessary RA, such as monitoring wells, has been constructed;
- If the OU includes remedy components other than ground water, construction activities are complete and cleanup goals specified in the ROD have been achieved for these components;
- A contract final inspection or equivalent has been conducted; and
- The Interim RA Report contains the information described in Exhibit 2-3.

2.2.2 Final RA Report

Criteria for approval of the Final RA Report for a given OU are:

- All construction activities are complete, including site restoration and demobilization;
- All cleanup goals specified in the ROD have been achieved, including those for ground- and surface water restoration, if applicable;
- If containment, the remedy is operating as intended (operational & functional)
- A contract final inspection or equivalent has been conducted; and
- The Final RA Report contains the information described in Exhibit 2-3.

Note: When an Interim RA Report has already been prepared, the Interim RA report can simply be amended to create the Final RA Report. The amendment would add information on activities that occurred after the Interim RA Report was completed.

2.3 Relationship of RA Completion to Other Actions

This section describes other actions in the remedial pipeline that relate to RA Completion. Much of the language that follows comes from OSWER Publication 9200.3-141E, "Superfund / Oil Program Implementation Manual, Fiscal Year 99/00," (SPIM) and the National Contingency Plan (NCP). At the end of the section, the Response Actions are shown graphically in Exhibit 2-2.

2.3.1 Operational & Functional (O&F)

O&F activities are conducted after physical construction of the remedy is complete to ensure that it is functioning properly and operating as designed. O&F determinations are made for containment remedies (all media), ground water restoration, and surface water restoration, but not for monitored natural attenuation. The phase following construction of the remedy and before O&F is often referred to as shakedown, where the constructor makes minor modifications as necessary to ensure the remedy is operating as designed.

Formal O&F determinations are primarily made for Fund-financed projects because O&F governs when the Regions turn these projects over to the States for operation and maintenance. The term O&F is also sometimes applied to Potential Responsible Party (PRP) lead projects to signify the end of the shakedown period. For Federal Facilities (FF) lead

projects, a different determination, Operating Properly and Successfully, is made.

O&F Determination: A remedy becomes O&F either one year after construction is complete, or when the remedy is determined concurrently by EPA and the State to be functioning properly and is performing as designed, whichever is earlier. EPA may grant extensions to the one-year period in writing, as appropriate. At a minimum, the attainment of O&F is documented in the Interim or Final RA Report. It may also be documented by letter to the interested parties.

2.3.2 Long-Term Response Action (LTRA and PRP LR)

LTRA is defined as the Fund-financed operation of ground water and surface water restoration measures, including monitored natural attenuation, for the first ten years of operation. The Fund continues to pay 90 percent of the cost during this period, and the State funds the entire operation after ten years.

Regions have sometimes used the term LTRA inexactly to describe PRP-conducted ground water and surface water restoration measures, including monitored natural attenuation. PRP actions are covered by a separate action, PRP LR, where LR refers to Long-Term Response. Since PRP-lead PRP LR is a specific type of O&M, the ten-year time frame is not applicable.

The Federal Facilities program does not use LTRA or PRP LR. Their ground water and surface water restoration measures go from RA completion directly to O&M.

LTRA and PRP LR do not apply to ground water or surface water containment measures, ground water monitoring, ground water or surface water measures initiated for the primary purpose of providing a drinking water supply, bioremediation, or soil vapor extraction.

LTRA or PRP LR Start: LTRA or PRP LR begins on the date the designated Regional Official (Branch Chief or above) approves the Interim RA Report.

Fund-Financed LTRA Completion: LTRA is complete when cleanup goals are achieved, as documented in a Final RA Report, when a technical impracticability determination is made, or after ten years, whichever is earlier. LTRA transitions to O&M if cleanup goals have not been achieved within the ten-year period.

PRP LR Completion: PRP LR is complete when cleanup goals are achieved, as documented in a Final RA Report, or when a technical impracticability determination is made, whichever is earlier.

2.3.3 Operation and Maintenance (O&M)

O&M are the activities required to maintain the effectiveness and integrity of the remedy, and, in the case of Fund-financed measures to restore ground- or surface-waters, continued operation of such measures beyond the LTRA period until cleanup goals are achieved.

PRP-conducted groundwater and surface water restoration measures, including monitored natural attenuation, are technically defined as O&M. However, regions may use the action, PRP LR, to indicate that these activities are being performed at the site.

O&M Start: O&M starts when the RA is complete and the State or PRPs assume responsibility for all activities necessary to operate and/or maintain the long-term effectiveness or integrity of the actions selected in the ROD. This is the date the designated Regional official accepts the Final RA Report.

In the case of an LTRA that goes the full ten years without achieving cleanup goals, O&M starts upon LTRA completion.

For Federal Facility-lead ground water and surface water restorations, including monitored natural attenuation, O&M starts on the date the designated Regional Official approves the Interim RA Report.

O&M Completion: O&M completion may be indefinite, as in the case of a landfill cap, or completion may be accomplished when cleanup goals are achieved for ground water and surface water restoration. Where appropriate, the completion of O&M is defined as the date the performance standards or conditions specified in the Cooperative Agreement that provides funds for the RA;

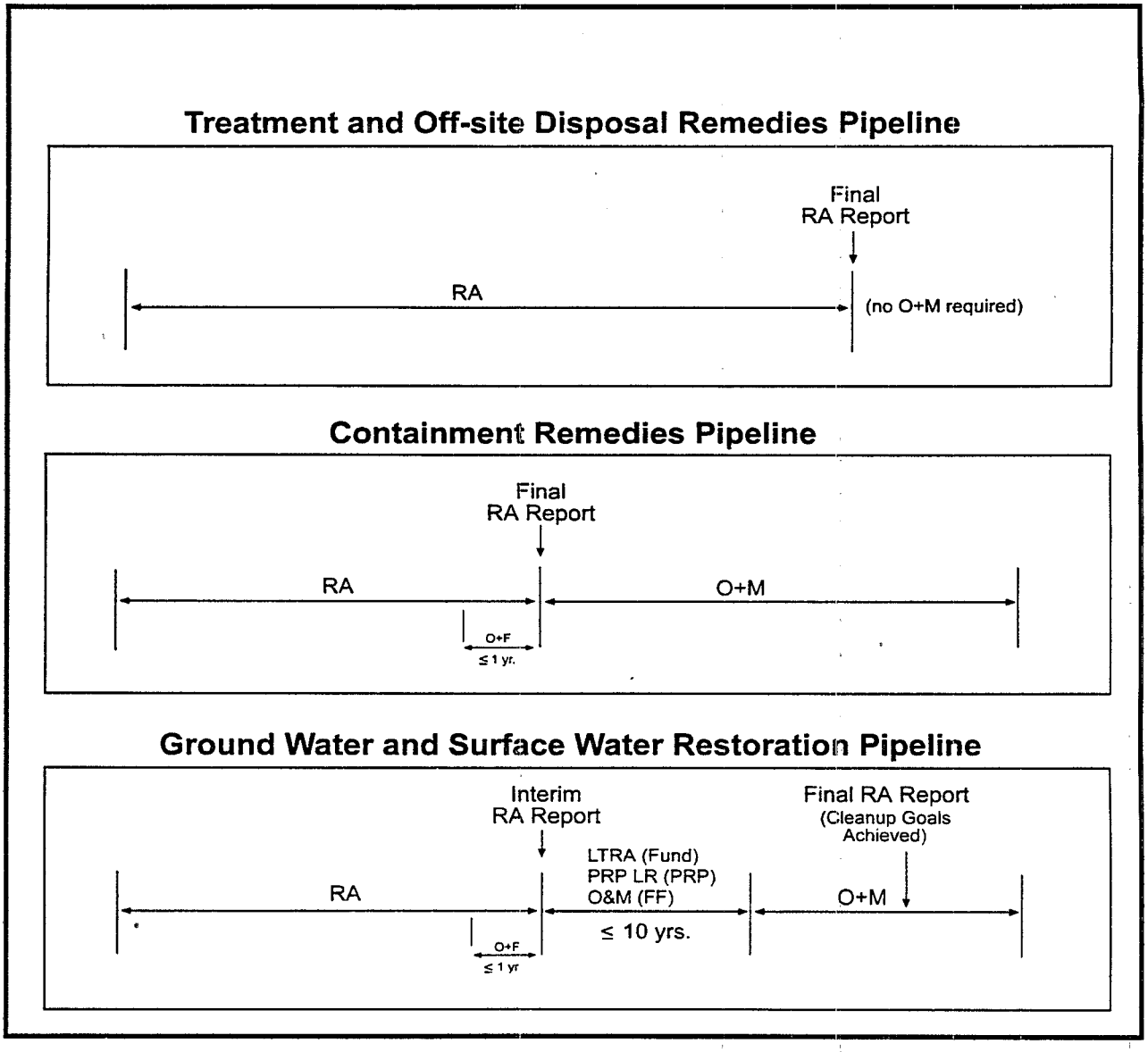
Superfund State Contract; or CD is signed by EPA, the PRPs and Federal judge have been met with respect to O&M.

2.3.4 Cleanup Goals Achieved

Cleanup Goals Achieved is used for ground water and surface water restoration, including monitored natural attenuation remedies. These remedies have not yet achieved cleanup goals when RA is completed and the Interim RA Report is signed.

Cleanup Goals Achieved: Cleanup goals are achieved on the date the designated Regional Official approves in writing the Final RA Report. This report should update information previously provided in the Interim RA Report.

EXHIBIT 2-2, End-of-the-Pipeline Examples



2.4 Inspection Requirements for RA Completion

With any RA construction contract, regardless of lead or contracting party, normal construction industry practice is to conduct contract pre-final and final inspections prior to closing out the construction contract. These inspections are conducted to determine whether the construction has been completed in accordance with the contract design and specifications. The inspections are generally held between the contracting party and the construction contractor, although others can be invited.

During the contract pre-final inspection, the contracting party's project manager and the construction contractor inspect all elements of work to see if the work is complete and ready for acceptance under the terms of the contract. Some minor defects may come to light as the inspection proceeds. The construction manager develops a "punch list" of all items that need correction or completion before the work can be accepted. A pre-final inspection report is prepared, including the punch list, completion dates for outstanding items, and a date for a final inspection.

If punch list items are minor, the pre-final inspection may automatically serve as the final inspection. Otherwise, a final inspection is conducted later to determine that punch list items are corrected and all work has been completed in accordance with the contract plans and specifications.

> The National Contingency Plan, Model Consent Decree, and Federal Facility Agreements may require other RA completion inspections. These inspections may be held concurrently with or separately from the contract pre-final and final inspection described above.

2.4.1 Fund-lead RA Completion Inspections

The NCP requires an additional inspection at Fund lead sites requiring operation and maintenance. An inspection is conducted jointly by EPA and the State at the end of all construction activities for that RA.

If convenient, it can be conducted in conjunction with the contract pre-final or final inspection. After the inspection, EPA may share in the cost of operating the RA for up to one year to ensure that the remedy is O&F. See section 2.3.1.

2.4.2 Responsible Party-lead RA Completion Inspections

The Model RD / RA Consent Decree of July 1995 requires a pre-certification inspection upon completion of the RA. This inspection normally involves the Settling Defendants (PRPs), EPA, and the State. The purpose of this inspection is to determine if the RA has been fully performed in accordance with the terms of the Consent Decree.

After the pre-certification inspection, the Settling Defendants are also required to submit a written report to EPA for approval stating that the RA has been completed in full satisfaction of the requirements of the Consent Decree. This report, if it contains the proper information, can serve as the Final RA Report for the OU. For ground water and surface water restoration remedies, where an Interim RA Report is appropriate, EPA may have to prepare the interim report since it is normally not required in the Consent Decree.

2.4.3 Federal Facility-lead RA Completion Inspections

Federal Facility Agreements generally require an additional set of inspections to determine that all aspects of the remedy have been implemented in accordance with applicable enforcement documents and the ROD. Participants include the EPA, oversight contractor, and the State. The inspection can be done concurrently with the contract inspection described in Section 2.4.

2.5 Preparing the RA Report

The RA Report documents the cleanup activities that took place at a single OU under remedial authority. The RA Reports for a site can be used as the supporting documentation for development of the Final Closeout Report for the site, as described in Chapter 4.

The RA Report is a key document to gather historical cleanup information for analysis of Superfund

remedies. It is the mechanism used to share information within EPA, and between EPA and other Federal agencies. The RA Report includes cost and performance data which, along with other information t, assists with future remedy selection decision-making, provides a means to compare technology performance, supports improved cost comparisons, and documents progress made at sites.

2.5.1 Submitting the RA Report

The RA Report should be completed as soon as possible after contract final inspection of the completed construction and determination that the remedy is O&F, if applicable. The RA Report may take some time to compile; however, the goal is to have the report submitted to the Region for approval within 90 days of the final inspection or O&F determination. In order not to delay the preparation of the report, estimated costs can be used to supplement the known actual costs when pending contractor claims have not been settled.

2.5.2 Who Prepares the RA Report

The RA Report is prepared by the party most familiar with the RA design and construction efforts, and associated project costs. Such familiarity provides the best opportunity to discuss the successes, difficulties, and lessons learned about the project. The contracting party for the RA (e.g., the PRPs, the Army Corps of Engineers, the State, EPA's contractor, or another Federal Agency) is most familiar with the RA. While the EPA RPM sometimes does prepare the RA Report, the contracting party generally should be tasked with that effort.

2.5.3 Contents of the RA Report

Exhibit 2-3, at the end of this chapter, presents the specific contents that should be included in the RA Report. Appendix A provides a sample RA Report.

2.6 RA Report Approval

Since the RA Report is ideally prepared by the contracting party, and not EPA, the report must be approved by EPA in order to achieve RA Completion for an OU. There is no EPA Headquarters (HQs) review or concurrence role for RA Reports. Approval occurs when the designated Regional official (Branch Chief or above, as determined by the EPA Region) approves in writing the Interim or Final RA Report. The approval can be provided with an appropriate signature on the RA Report cover sheet or by letter to the originator of the RA Report.

2.7 RA Report Distribution

Once the RA Report is approved, the original is retained in the Regional site file, and a copy should be returned to the originator of the report. Upon RA Completion, the Region is also required to notify the appropriate Natural Resources Damages Trustees listed in the Regional Contingency Plans. The Region should provide a copy of the Interim or Final RA Report to the Trustees within one week of the completion and approval of the report.

A copy of the RA Report should also be sent to EPA HQs for extraction of useful technical information. Send the report electronically to the appropriate Regional Center in EPA HQs, Office of Emergency and Remedial Response.

2.8 Completion of the Last RA at a Site

As the RA Completion for the last OU at the site nears, the Region needs to plan ahead for achieving Construction Completion, which is described in Chapter 3. Often, Construction Completion for the site is achieved prior to RA Completion for the last OU. Reasons include:

- Due to the need to gather cost and performance information, the Interim or Final RA Report (document RA completion) is prepared up to 90 days after the contract final inspection or O&F determination. The Preliminary Closeout Report (for the site) can be prepared very soon after the contract final inspection and before O&F determination.
- For bioremediation and soil vapor extraction remedies, the RA Report is not prepared until cleanup goals are achieved, often several years after construction of the treatment system. The Preliminary Closeout Report for the site can be prepared when the system is operating satisfactorily.

Even if Construction Completion has already been achieved, the Region must still ensure that a RA Report is prepared for the final Operable Unit.

EXHIBIT 2-3, RA Report Contents

SECTION	CONTENTS
I. Introduction	• Include a brief description of the location, size, environmental setting, and operational history of the site. • Describe the operations and waste management practices that contributed to contamination of the site. • Describe the regulatory and enforcement history of the site. • Describe the major findings and results of site investigation activities. • Describe prior removal and remedial activities at the site. • Describe the other OUs designated at the site and introduce the OU for which the RA Report applies.
II. Operable Unit Background	• Summarize requirements specified in the ROD for the OU. Include information on the cleanup goals, institutional controls, monitoring requirements, operation and maintenance requirements, and other parameters applicable to the design, construction, operation, and performance of the RA. • Provide additional information regarding the basis for determining the cleanup goals for the OU, including planned future land use. • Summarize the remedial design, including any significant regulatory or technical considerations or events occurring during the preparation of the RD. • Identify and briefly discuss any ROD amendments, explanation of significant differences, or technical impracticability waivers.
III. Construction Activities	• Provide a step-by-step summary description of the activities undertaken to construct and implement the RA (e.g., mobilization and site preparatory work; construction of the treatment system; associated site work, such as fencing and surface water collection and control; system operation and monitoring; and sampling activities). • If a treatment remedy, refer reader to Appendix A for characteristics, site conditions, and operating parameters for the system.
IV. Chronology of Events	• Provide a tabular summary that lists the major events for the OU, and associated dates of those events, starting with ROD signature. • Include significant milestones and dates, such as, remedial design submittal and approval; ROD amendments; mobilization and construction of the remedy; significant operational events such as treatment system / application start-up, monitoring and sampling events, system modifications, operational down time, variances or non-compliance situations, and final shut-down or cessation of operations; final sampling and confirmation-of-performance results; required inspections; demobilization; and completion or startup of post-construction operation & maintenance activities. • If an Interim RA Report, indicate when cleanup goals are projected to be achieved for the ground or surface water restoration.

SECTION	CONTENTS
V. Performance Standards and Construction Quality Control	• Describe the overall performance of the technology in terms of comparison to cleanup goals. • For treatment remedies, identify the quantity of material treated, the strategy used for collecting and analyzing samples, and the overall results from the sampling and analysis effort. • Provide an explanation of the approved construction quality assurance and construction quality control requirements or cite the appropriate reference for this material. Explain any substantial problems or deviations. • Provide an assessment of the performance data quality, including the overall quality of the analytical data, with a brief discussion of quality assurance and quality control (QA/QC) procedures followed, use of a quality assurance project plan (QAPP), comparison of analytical data with data quality objectives (DQOs). • For PRP-funded projects, discuss EPA's oversight activities and results with regard to analytical data quality.
VI. Final Inspection and Certifications	• Report the results of the various RA contract inspections, and identify noted deficiencies. • Briefly describe adherence to health and safety requirements while implementing the RA. Explain any substantial problems or deviations. • If implemented, summarize details of the institutional controls (e.g., the type of institutional control, who will maintain the control, who will enforce the control). • For RP-lead, describe results of pre-certification inspection. • If applicable, certify that the remedy is operational and functional, along with the date this was achieved.
VII. Operation & Maintenance Activities	• Describe the general activities for post-construction operation and maintenance activities, such as monitoring, site maintenance, and closure activities. • Identify potential problems or concerns with such activities. • If an Interim RA Report, describe the future ground water or surface water restoration activities to meet cleanup goals.
VIII. Summary of Project Costs	• Provide the actual final costs and applicable year for the project. This is required for Fund-lead projects and should be provided whenever possible for PRP-lead projects. If actual costs are not available, provide estimated costs. • Provide the costs previously estimated in the ROD for the selected remedy, including, as applicable, RA capital costs, RA operating costs, post-RA annual O&M costs, and number of years of O&M. Adjust the estimates to the same dollar basis year as the actual project costs, and provide the index used. • Compare actual RA costs to the adjusted ROD estimates. If outside range of -30 to +50 percent, explain the reasons for differences. • If the project is PRP-funded, include a summary of EPA oversight costs for RD and RA. • For treatment remedies, calculate unit costs based on the sum of the actual RA capital and RA operating costs divided by the quantity of material treated. • Refer reader to Appendix A for a detailed breakdown of RA and O&M costs.

SECTION	CONTENTS
IX. Observations and Lessons Learned	• Provide site-specific observations and lessons learned from the project, highlighting successes and problems encountered and how resolved.
X. Operable Unit Contact Information	• Provide contact information (names, addresses, phone numbers, and contract / reference data) for the major design and remediation contractors, EPA oversight contractors, and the respective RPM and project managers for EPA, the State, and the PRPs, as applicable.
Appendix A Cost and Performance Summary	• The specific parameters presented in Appendix A are in accordance with the "Guide to Documenting and Managing Cost and Performance Information for Remediation Projects," EPA 542-B-98-007. Regions are encouraged to use the recommended procedures outlined in this Guide for documenting cost and performance information as part of the RA Report. • Identify the matrix characteristics and site conditions that most affected the cost and performance, the corresponding values measured for each characteristic or condition, and the procedures used for measuring those characteristics or conditions. These items include the soil type and particle size distribution, environmental setting, media properties, and quantity of materials treated. • Identify the operating parameters specified by the remediation contractor that most affected the cost and performance, the corresponding values measured for each parameter, and the procedures used for measuring those parameters. These items include system throughput, pumping rate, flow rate, mixing rates, residence time, operating pressure and temperature, moisture content, and pH. • Provide a detailed breakout of the actual RA capital costs, RA operating costs (costs to operate and maintain the treatment process), and estimated
Other Appendices	• Provide supplemental information in appendices to the RA Report. These could include a map of the site and operable unit, a schematic of the treatment system, supplemental performance information, and a list of references.

3.0 CONSTRUCTION COMPLETION

3.1 Background

In the first ten years of the Superfund program, outside audiences often measured Superfund's progress in cleaning up sites by the number of sites deleted from the NPL as compared to the number of sites on the National Priorities List (NPL). This measure, however, did not and still does not fully recognize the substantial construction and reduction of risk to human health and the environment that has occurred at NPL sites not yet eligible for deletion. In order to better measure Superfund's progress, the Superfund 30-Day Task Force Report recommended setting firm annual targets for completing remedial construction activities at sites on the NPL.

A construction completion site is a former toxic waste site where physical construction of all cleanup actions are complete, all immediate threats have been addressed, and all long-term threats are under control.

In a 1990 Federal Register Notice (FR), the Environmental Protection Agency (EPA) established the Construction Completion category on the NPL (FR Volume 55, No. 46, March 8, 1990).

> "The category would consist of: (a) sites awaiting deletion, (b) sites awaiting deletion but for which CERCLA section 121c requires reviews of the remedy no less often than five years after initiation, and (c) sites undergoing long-term response action(s). EPA believes the new category would communicate more clearly to the public the status of cleanup progress among sites on the National Priorities List."

A later Federal Register Notice (FR Volume 58, No. 29, March 2, 1993) introduced the Superfund Construction Completions List (CCL) ". . . to simplify its system of categorizing sites and to better communicate the successful completion of cleanup activities." A total of 155 sites were included in that list, which also clarified that determination of **construction completion** at a site has no legal or financial significance, as it does not relate to satisfying contractual or other requirements (e.g., cleanup contract, consent decree, cooperative or interagency agreement), nor to the eligibility of cost reimbursement from the Fund.

According to the FR, "The CCL is a compilation of sites presently or formerly on the NPL. Sites qualify for the CCL when:

(1) Any necessary physical construction is complete, whether or not final cleanup levels or other requirements have been achieved;
(2) EPA has determined that the response action should be limited to measures that do not involve construction; or
(3) The site qualifies for deletion from the NPL." *(Note: This item does not apply to sites deferred to RCRA or other authorities and deleted from the NPL prior to completing construction.)*

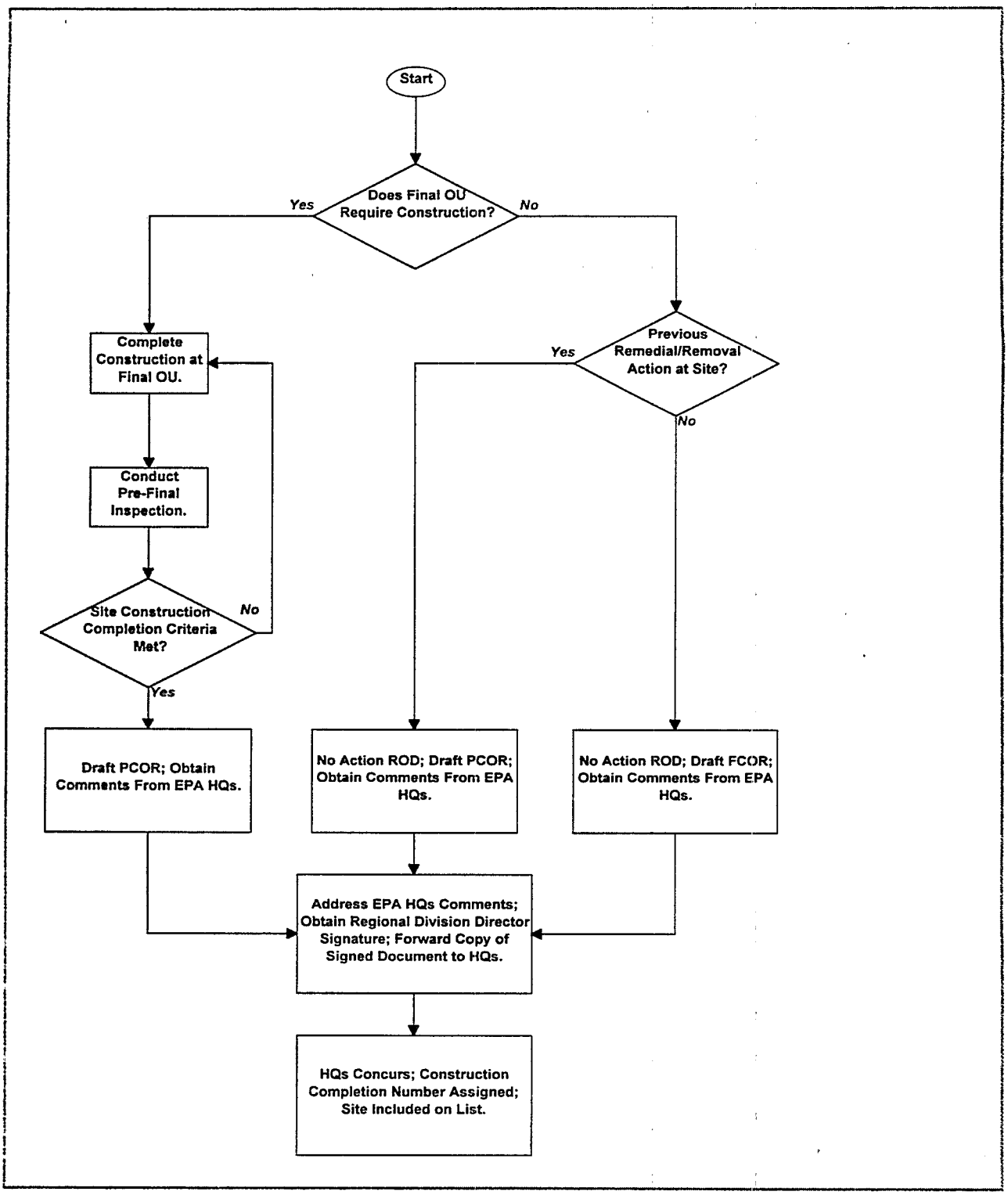
Only final NPL sites qualify for inclusion in the construction completion list. Final NPL sites qualify for inclusion in the construction completion list after completion of all construction work in all operable units of the site.

> The Region must carefully evaluate the status of all response actions at the site and anticipate the need for additional construction activities. If the Region believes that additional construction might be required in the future for the site, the site should not be placed on the Construction Completion List.

3.2 Construction Completion Process

The completion of the last response action (removal or remedial) at a site determines when it becomes eligible for **construction completion**. The construction completion process is illustrated in Exhibit 3-1.

EXHIBIT 3-1, Construction Completion Process



The following sections provide more detail on the most common candidates for the **construction completion** milestone and their reporting requirements. NPL sites that are fully addressed under removal authority can meet the **construction completion** and **site completion** criteria simultaneously. The preparation of a Final Close Out Report (FCOR) can be used to document this milestone. Most NPL sites however, are addressed under remedial authority. Sites addressed under remedial authority usually meet the **construction completion** criteria first, and upon reaching cleanup goals the site qualifies for site completion. This section addresses the following cases:

- Sites requiring Remedial Action (RA) in the final Operable Unit (OU),
- Sites requiring no RA in the final OU,
- Technology Considerations for Construction Completions, and
- Lead and Authority Considerations for Construction Completions.

3.3 Sites Requiring RA in the Final OU

This section presents the **construction completion** process for sites requiring physical construction in the final **operable unit**. At these sites the **construction completion** milestone is achieved when a **pre-final inspection** for the last RA has been conducted and a Preliminary Close Out Report (PCOR) has been signed.

3.3.1 Pre-Final Inspection

A **pre-final inspection** should be conducted for the site's final OU following the procedures outlined in Section 2.4, Inspection Requirements for RA Completion. Construction completion criteria are satisfied when only minor "punch list" items are identified in the inspection to finish the work in accordance with design plans and specifications. Minor "punch list" items are activities that are part of the contract but do not affect the functioning of the remedy. These items must be addressed by the construction contractor before the final inspection. Exhibit 3-2 provides examples of minor "punch list" items that will still allow a **construction completion** determination. Because Exhibit 3-2 is only a representative list, each site must be evaluated individually.

EXHIBIT 3-2,
Examples of Minor "Punch List" Items

- Revegetating landscape (except when integral remedy component)
- Removing construction debris
- Installing support equipment, such as security lighting
- Repairing poorly installed flashing on roof
- Repairing other minor defects in workmanship or construction
- Demobilization activities
- Installing additional monitoring wells
- Resurfacing roads

3.3.2 Preliminary Close Out Report

While much of the input can be provided by the contractor and through previous RA Reports, the PCOR is an EPA document that is prepared by the Remedial project Manager (RPM). Even before the pre-final inspection is conducted, the RPM can start drafting portions of the PCOR because much of the documentation is historical and not dependent on the outcome of the pre-final inspection.

The PCOR focuses on all OUs at the site, including a description of the releases at the site, site conditions, all construction activities (including removals), completion of construction, Five-year Reviews, and a detailed schedule of steps remaining for site completion. The PCOR should contain a status report by OU of the ROD, estimate of capital and annual O&M costs, and the construction contract award amount. This information should be provided for Fund-lead projects and whenever possible for PRP-lead projects. If the project is performed by a PRP, a summary of EPA estimated oversight costs for design and construction should be provided as well. The PCOR generally should be five to seven pages and contain the information shown in Exhibit 3-3. Appendix B has two examples of PCORs.

The RPM will often prepare the PCOR for the site before the RA Report for the final OU is completed. This sequence is typical because the RA report may take up to 90 days for the preparer (State, PRP, USACE, etc.) to submit and get approved, or the site may have a long period of operation before cleanup goals are achieved.

EPA Headquarters (HQs) has Regional Coordinators assigned to act as primary reviewers of the PCORs. These individuals will work closely with the RPM in performing completion activities and will review the PCOR. The RPM must send the draft PCOR to the appropriate EPA HQs Regional coordinator for review and comments prior to regional signature. After addressing HQs comments and obtaining the signature of the appropriate regional official, a copy of the signed report is forwarded to EPA HQs.

The **construction completion** milestone is achieved when the designated Regional official signs the PCOR or FCOR, a hard copy of the signed document is sent to EPA HQs, and EPA HQs concurs. EPA HQs tracks and reports overall construction completion progress.

EXHIBIT 3-3, Preliminary Close Out Report Summary

SECTION	CONTENTS
I. Introduction	• Include general statement indicating date of pre-final inspection and a statement that contractors or agencies have constructed the remedies in accordance with remedial design plans and specifications.
II. Summary Of Site Conditions	• Provide background summary of site location, site description, and NPL listing information. • Describe any removal action activities at the site. • Include remedies selected, date RA initiated, method used to implement RA (e.g., consent decree, contract, cooperative or other agreement), and date and description of pre-final inspections used to determine that construction is complete. • If implemented, summarize details of the institutional controls (e.g., the type of institutional control, who will maintain the control, who will enforce the control). • Describe redevelopment potential at the site, or any planned or ongoing redevelopment work.
III. Demonstration Of Cleanup Activity QA/QC	• Document that the construction quality assurance / quality control plan was implemented and that construction completion is consistent with the ROD and remedial design plans and specifications.
IV. Activities And Schedule For Site Completion	• Identify activities remaining in order to: - Assure effectiveness of the remedy (e.g., institutional controls, work plan for operation and maintenance), - Assure consistency with the NCP (e.g., joint EPA / State inspection, operational and functional determination), - Satisfy requirements for site completion (e.g., Final RA Report). • Specify the organization responsible for implementation of each activity. • Set dates for completion of the activities and elements required to satisfy NCP and procedural requirements for issuing a FCOR and reaching site completion.
V. Summary of Remediation Costs	• Report for each operable unit: - ROD estimate of capital costs and annual O&M costs, - Construction contract award amount.
VI. Five-Year Review	• State whether a five-year review is required, what type of review is required (statutory or policy), and when scheduled.

Sometimes a PCOR may not be needed because the site meets both **construction completion** and **site completion** criteria (See Chapter 4) simultaneously. In these cases, the RPM may elect to prepare a FCOR to satisfy both documentation requirements concurrently.

Upon completion of a PCOR or FCOR the appropriate Trustees listed in the Regional Contingency Plans will be notified of the construction completion determination. The Region will provide a copy of the report to the Trustees within one week of the completion of the report.

3.4 Sites Requiring No RA in the Final OU

At some NPL sites, EPA determines that no physical construction is necessary in the final OU to protect human health and the environment. There may or may not have been previous removal or RAs conducted at other OUs of the site.

These types of sites formerly qualified for construction completion with a statement in the certification page of the ROD that "EPA has determined that its response at this site is complete and no action / no physical construction is necessary at this site. Therefore, the site now qualifies for inclusion on the Construction Completion List." This guidance changes that policy in order to be consistent with documentation requirements. In addition, confusion was created by the term "No Action ROD" when removal or remedial construction work may have been done in other OUs of the site. **As of the effective date of this guidance, all sites qualifying for construction completion, including sites with No Action RODs in the final operable unit, must be documented via a Preliminary Close Out Report or Final Close Out Report.**

3.5 Technology Considerations for Construction Completions

This section includes special requirements for surface and ground water long-term restoration remedies, bioremediation, soil vapor extraction, contingency remedies, monitoring, and institutional controls.

3.5.1 Ground and Surface Water Restoration Remedies

Ground and surface water restoration remedies are undertaken to restore ground water or surface water quality. These actions require a continuous operation phase long after the system has been constructed, to achieve the cleanup levels specified in the ROD. **Construction completion** at these site is met when physical construction of the remedy (e.g., construction of the treatment plant, pumps, and extraction wells) is complete, the pre-final inspection has been conducted, the treatment system is operational, and any expected future adjustments are likely to be minimal in nature (e.g., well replacement). If substantial work is expected (e.g., installation of an additional extraction network or treatment components) because the system is currently experiencing problems or as a result of phased construction (see section below), the site does not qualify as a construction completion.

To document **construction completion,** the RPM prepares a PCOR. In this case, the PCOR's "Schedule for Site Completion" should include the Operational and Functional determination and the date when the remedy is expected to achieve the cleanup goals.

> Even though the site may be declared construction complete, the OU involving the long-term response action (LTRA or PRP LR) must still achieve cleanup goals specified in the ROD. An interim RA Report is prepared after the plant is operating as intended (operational & functional), and a Final RA Report is prepared when cleanup goals are achieved.

3.5.2 Phased Ground Water Cleanup Approach

In some situations, a phased ground water cleanup approach is employed at a site, often under an interim ROD. If an interim ROD has been used to initiate the ground water cleanup, it must be followed by a final ROD before the site qualifies as a **construction completion**.

Phasing a ground water remedy is actually a multi-phase construction project. The treatment plant and a

set of wells (a subset of what is expected to be used for the entire site) may be installed and operated for a period of time. The goal of this initial phase is to test and optimize system performance. Upon successful completion of this phase, a series of additional wells may be installed and tested in a consecutive manner according to the remedial design. Because further construction is expected after the initial treatment plant and wells are installed, construction completion would be achieved only after a final ROD has been signed and all additional work has been completed. At this point a PCOR could be prepared to document the construction completion.

3.5.3 In-situ Soil Vapor Extraction and Bioremediation Remedies

Bioremediation or in-situ soil vapor extraction (SVE) technologies resemble ground water restoration remedies in that little day-to-day activity, other than routine operation of the treatment facility, takes place once the treatment facility is built. Accordingly, the construction completion policy for ground and surface water restoration remedies also applies to certain applications of SVE, in-situ bioremediation, and ex-situ bioremediation. Technology descriptions follow:

In-situ Soil Vapor Extraction

In-situ SVE units are designed to physically remove volatile compounds from soil layers located above the water table. The process employs vapor extraction wells alone or in combination with air injection wells. Vacuum blowers induce air through the soil layers, which strip volatile compounds from the soil and carries them to the surface via extraction wells. Volatiles are controlled by adsorption to activated carbon, incineration, or condensation by refrigeration. SVE systems vary in size, but consist of several extraction wells and surface blower / collection units.

Since SVE is in-situ, construction activity is primarily limited to the installation of extraction wells, blowers, and collection unit. Like groundand surface water restoration, the typical SVE site requires minimal post-construction activity. An example is the installation of additional extraction wells should conditions change, wells become fouled, or to optimize performance.

In-situ Bioremediation

In-situ bioremediation uses additives to degrade organic contaminants in soils and aquifers. Additives are injected into the soil or aquifer under pressure through wells or spread on the surface for infiltration to the contaminated material. The type of additive used at a particular site varies, but generally consists of either an oxygen source, nutrients, or perhaps micro-organisms.

In-situ bioremediation is similar to ground and surface water restoration remedies, in that it generally requires minimal post-construction activity once the initial installation of injection wells and surface equipment is completed.

Ex-situ Bioremediation

Ex-situ bioremediation uses microorganisms to degrade organic contaminants in excavated soil, sludge, and solids. Several variations of ex-situ bioremediation exist, and the amount of post-construction activity varies from site to site. Two common applications of ex-situ bioremediation are: slurry-phase bioremediation, in which soils are mixed with water to form a slurry; and solid-phase bioremediation, in which soils are placed in a liner, tank or building and tilled with water and nutrients. Variations of the latter process are called land farming or composting.

Subject to the considerations below, physical construction at ex-situ bioremediation sites can be considered completed if the contaminated material is safely stored, and only routine activity such as tilling remains to be done. Should there be planned activities at the site beyond simple regrading and revegetation (i.e. covering residuals with a cap as an integral part in ensuring protectiveness), then construction would not be complete.

The many variations in applying SVE and bioremediation technologies to sites make

establishment of specific criteria for determining construction completion difficult. Regions may only declare construction completion at SVE and bioremediation sites when the treatment unit has been constructed, is operating as designed, and **studies show that the technology will achieve cleanup goals**. Additional consideration should be given to ensuring protection against direct contact with contaminated soils during the treatment process. Safeguarding measures shall first be taken, such as stockpiling contaminated soils in an enclosed storage area, to ensure all pathways of exposure are eliminated.

Unlike many ground and surface water restoration remedies, in-situ SVE and bioremediation treatment units are generally constructed and operated by the same contractor. Therefore, a pre-final inspection may not be initiated upon completing the construction of the treatment unit. A thorough inspection analogous to the pre-final inspection shall be conducted and documented by the Region before preparing the PCOR.

Even though the site is declared a "construction completion," the operable unit involving bioremediation or SVE remains classified as an ongoing remedial action. It would not be called an LTRA - that term is used exclusively for ground water and surface water restoration remedies. The OU remedial action will not be complete until cleanup goals specified in the ROD are achieved and a Final RA Report has been submitted and accepted by EPA.

3.5.4 RODs with Contingency Remedies

RODs sometimes incorporate contingency remedies when there is significant uncertainty about the ability of the selected option to meet cleanup goals. This is particularly true where an innovative treatment technology is selected for use at a site. In terms of the construction completion criteria, the issue of contingency remedies are of concern only where remediation may still be ongoing after the site is considered construction complete (e.g., ground water, SVE, and bioremediation). For example, where natural attenuation is selected as the ground water remedy, EPA may have included a more traditional pump and treat as the contingency remedy.

Sites that have contingency remedies identified may be considered construction complete only if the Region can demonstrate that use of the contingency remedy is not anticipated at the site. To make this determination, there must be adequate justification in the PCOR to support this claim. This documentation must include the results from the appropriate sampling data, modeling, etc., to support this determination, with the information clearly presented in the PCOR. This determination in no way affects any Potential Responsible Party (PRP) settlement documents. Making this determination does not preclude having to later invoke the contingency should it be required.

3.5.5 Monitoring and Institutional Controls

A site can be included in the CCL before monitoring activities begin or institutional controls are in place if those activities are included in the PCOR's "Schedule for Site Completion."

Monitoring results provide information about an RA's performance and the need for future actions. Monitoring may be appropriate at any stage of an RA, including operation and maintenance (O&M). Although monitoring may occasionally identify the need for future work, the need for monitoring does not prohibit listing a site as a **construction completion** if the site qualifies otherwise. Actual installation of monitoring wells may also be included in the "Schedule of Site Completion" if the number of monitoring wells is not significant or is considered part of O&M activities.

The term "Institutional Controls" refers to legal / administrative controls that are intended to affect human activities in such a way as to prevent or reduce exposure. Examples are: land and natural resource use restrictions, prohibitions on well drilling, building permits, well use advisories, and deed notices. Institutional controls usually supplement containment and treatment remedies to reduce potential threats to human health and the environment. In rare cases they may be the sole remedy. Since institutional controls do not require construction, they may be implemented after construction completion and should be shown in the "Schedule of Activities" section of the PCOR. However, they must be in place to achieve site completion.

3.6 Lead and Authority Considerations for Construction Completions

Some NPL site cleanups are addressed by parties other than EPA. Close out procedures for these sites are discussed below.

3.6.1 PRP Lead

The preamble to 40 CFR Part 300 states that inclusion of a site in the Construction Completion List does not have any legal significance and therefore, does not affect any enforcement agreement with the PRPs. **Construction completion** criteria for PRP sites are identical to those for Fund lead. The RPM, however, should carefully determine whether the activities performed by the PRP are in accordance with any applicable enforcement documents.

3.6.2 Federal Facilities

Construction completion procedures for Federal Facility sites are identical to those for Fund- and PRP-financed remedial actions.

3.6.3 State Lead

State-lead sites with no ROD and sites where the State assumes all responsibility for overseeing PRP response actions require State certification of construction completion. In these situations, EPA relies heavily on the State to determine the appropriate response. EPA includes these sites on the Construction Completion List based on a determination by the State that all response action is complete.

In most instances, the State prepares the PCOR and EPA concurs with this decision by signing the PCOR. The PCOR must include the Regional concurrence with the State's determination that no further response action is appropriate. If the State does not prepare an actual PCOR, then the State should send a certification letter to the Region that includes a detailed summary of all actions taken at the site. It should also include the following certification:

> "The State of _____ has determined this site is protective of human health and the environment. Therefore, all response action at this site is complete and no further construction is anticipated. The site meets the criteria for construction completion as described in EPA's "Close Out Procedures for National Priority List Sites.""

3.6.3 Removal Authority

Action under removal authority achieves prompt risk reduction through emergency, time-critical, and non-time critical actions. In general, cleanup actions under removal authority will not have a ROD as is normally the case for sites addressed under remedial authority. NPL sites addressed entirely under removal authority may reach the construction completion and site completion milestones simultaneously when:

- The RPM (or On-Scene Coordinator (OSC), as appropriate) documents in the final Pollution Report (POLREP) that the contractor is demobilized and has left the site. In the case of a potentially responsible party (PRP)-lead site, the POLREP documents that the PRP's contractor has completed the removal action specified in the Action Memorandum and fully met the terms of the applicable enforcement document.

In some instances, it will be appropriate to document the removal action with an On-Scene Coordinator Report. For information regarding POLREP and OSC Reports refer to Directive 9360.3-03, Superfund Removal Procedures, Removal Response Reporting: POLREP and OSC Reports," June 1994.

The RPM or OSC will prepare a PCOR or FCOR, as appropriate, to document the construction completion.

3.6.4 Resource Conservation and Recovery Act Deferral

The same notice that introduced the Construction Completion List (FR Volume 58, No. 29, March 2, 1993) also indicated that:

> " ... deleted sites will not qualify for the CCL if physical construction remains to be conducted under another statutory authority."

Further, EPA's "Deletion Policy for Resource Conservation and Recovery Act Facilities" (FR

Notice 40 CFR Part 300 dated March 20, 1995), later amended to make the policy also applicable to Federal Facility sites (FR Notice 40 CFR Part 300 dated November 24, 1997) indicates the following:

> "EPA believes it is appropriate to delete sites from the NPL based upon deferral to RCRA under certain circumstances. Deletion of sites from the NPL to defer them to RCRA Subtitle C Corrective Action authorities would free CERCLA's oversight resources for use in situations where another authority is not available, as well as avoid possible duplication of effort and the need for an owner / operator to follow more than one set of regulatory procedures."

Based on the citations above, if a site is deleted from the NPL by means of deferral to RCRA prior to completion of construction, it does not qualify as a construction completion. Deferral of remediation to another authority generally means that "physical construction" originally identified using the CERCLA process will occur after site deletion. Since one of the goals in deleting a site from the NPL after deferral to another authority is to save CERCLA oversight costs, Regions should not routinely track these deleted sites. **Consequently, sites deleted from the NPL due to deferral of physical construction to another authority do not met the requirements for construction completion.**

3.6.5 Multiple Authorities Conducting Cleanup at the Same Site

Often, cleanup work under different authorities may be planned or under construction simultaneously. Operating facilities may have RCRA corrective action ongoing at one part of the site, while NPL work is occurring elsewhere. Similar situations may occur under other authorities. In situations where the physical construction identified under CERCLA authority for the NPL site is complete, but other non-CERCLA work remains, the site can qualify for construction completion if documentation requirements are met. An example is CERCLA physical construction completed at a nuclear production facility to address off-site ground water contamination with remaining work to be completed as a facility closure several years later under Nuclear Regulatory Commission authority. Any physical construction that has been identified through the CERCLA process must be finished before the site can be declared construction complete.

3.7 Additional Work at Construction Completion Sites

FR Volume 58, No. 29, March 2, 1993, "Notification of Policy Change; Categorization of Superfund Sites," addresses the issue of Routine Adjustments at construction completion sites. The notice indicates:

> "Also, routine adjustments and modifications to a constructed remedy can be expected, but do not affect a site's status on the CCL. Examples of adjustments or modifications include the drilling of additional extraction wells, modifications to unit processes at ground water treatment plants, and dismantling and removing on-site remediation facilities."

Other examples of routine adjustments include:

- maintaining a landfill cap (including landscaping, erosion control)
- Making service / repair / adjustments to SVE, bioremediation, ground water, or landfill gas collection treatment plants
- Clearing drainage system and settling ponds of debris (including repairs / replacement)
- Modifying the sampling and analysis scheme as part of monitoring a remedy (i.e. ground water monitoring, gas collection, stream discharge, leachate collection). These modifications may also entail physical equipment replacement, repairs, equipment location changes.

Unforseen circumstances may require additional work (e.g., implementing a new remedy, adding a new treatment train to an existing remedy, removing newly identified pockets of contamination, compromised remedies through acts of nature (floods, hurricanes, etc.) after the site has been declared a construction complete. The significance of the work performed would likely trigger a new (or amended) Action Memo, ROD, or ESD.

The Agency may change the construction completion categorization of sites where there is a significant change in site conditions that requires extensive additional construction activity. In such cases the site may be removed from the Construction

Completion List. Upon completion of the construction activity and compliance with the construction completion criteria the site will be restored to the list.

Should significant additional work be required at a site, the Region must notify the nearby community of the problem along with a strategy for rectifying the situation. This notice can be done through a fact sheet, news bulletin, or public notice. If a change in the remedy is warranted, then the public participation requirements outlined in the NCP would apply.

At construction completion sites in which unanticipated additional work is identified, the Region should notify EPA HQs (Construction Completion Coordinator) as soon as the problem is identified. Within 30 days of the notification, a fact sheet, no longer than two pages, should be sent to HQs with a detailed description of the additional work required at the site and the action planned or underway to address it. This fact sheet will serve as documentation of the additional work in the Regional and HQs files, and EPA HQs will decide, in consultation with the Region, if the site should remain on the Construction Completion List or be removed from the list.

3.8 Construction Completion Checklist

Construction completion activities vary according to site circumstances. For typical sites, however, achieving construction completion requires the RPM to:

- ✓ Assess site against construction completion criteria
- ✓ Conduct and document pre-final inspection for final operable unit
  - Complete pre-final inspection report
  - Document "punch-list" items
- ✓ Prepare Preliminary Close Out Report
  - Submit draft to EPA HQs for review
  - Address HQs comments and finalize PCOR
  - Submit PCOR to appropriate Regional official for signature
  - Mail or fax hardcopy of signed PCOR to HQs
  - Upon completion of a PCOR or FCOR notify the appropriate Trustees listed in the Regional Contingency Plans.

4.0 SITE COMPLETION

Site completion signifies the end of all response actions at National Priorities List (NPL) sites. **Site completion** means that the response actions at the site were successful and no further Superfund response is required to protect human health and the environment.

The Remedial Project Manager (RPM) applies the Environmental Protection Agency's (EPA) site completion criteria to a site to verify that it is eligible for site completion status. Site completion is documented by a Final Close Out Report (FCOR). This chapter explains the documentation required to demonstrate that site completion criteria have been met and site completion has been achieved. The site completion process is illustrated in Exhibit 4-1.

4.1 Site Completion Criteria

A site must meet all the criteria below to be eligible for **site completion**:

- Cleanup goals specified in all Records of Decision (ROD) or removals are met;
- Institutional Controls are in place;
- All Remedial Action (RA) Reports, On-Scene Coordinator (OSC) Reports, and Pollution Reports (POLREP) have been completed;
- All RODs, ROD Amendments, and Explanation of Significant Differences (ESD) have been completed;
- The site is protective of human health and the environment; and
- The only remaining activities, if any, at the site are operation and maintenance activities that are performed by the State, Federal Facility or responsible parties.

4.2 Site Completion Process

Only an FCOR satisfies the site completion requirements. The following section presents NPL **site completion** requirements for cleanup activities under removal and remedial authority.

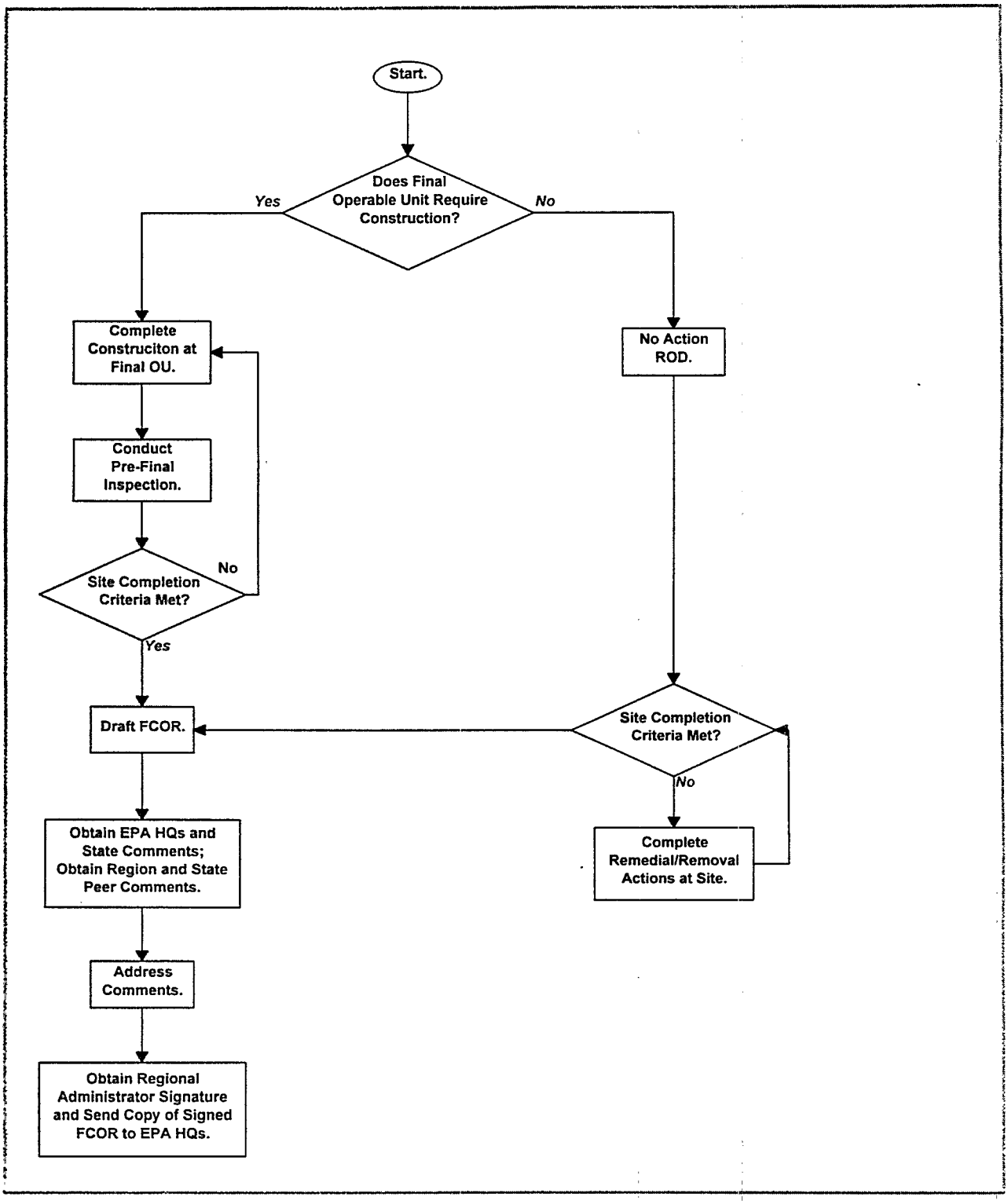
4.2.1 Removal Authority

Action under removal authority achieves prompt risk reduction through emergency, time-critical, and non-time critical actions. In general, cleanup actions under removal authority will not have a ROD as is normally the case for sites addressed under remedial authority. NPL sites addressed entirely under removal authority reach the construction completion and site completion milestones simultaneously when:

- The RPM or OSC, documents in the final POLREP that the contractor is demobilized and has left the site, or (in the case of a potentially responsible party (PRP)-lead site), that the PRP's contractor has completed the removal action specified in the Action Memorandum and fully met the terms of the applicable enforcement document.

In some instances, the removal action may have been documented with an On-Scene Coordinator Report. For information regarding POLREP and OSC Reports refer to Directive 9360.3-03, Superfund Removal Procedures, Removal Response Reporting: POLREP and OSC Reports," June 1994.

EXHIBIT 4-1, Site Completion Process



4.2.2 Remedial Authority

This section presents the site completion requirements for:

- Sites requiring remedial construction in the final Operable Unit (OU).
- Sites requiring no remedial construction in the final OU.
- Sites where no response action was required.

For the three situations identified above **site completion** is documented through a FCOR.

Sites Requiring Remedial Construction in the Final OU

The site is eligible for **site completion** when all remedial actions have been implemented and all **site completion** criteria are met. This means that all issues regarding **site completion** have been addressed (e.g., O&M assurances, cleanup concentrations, and implementation of institutional controls). **Site completion** is documented through a FCOR.

Sites Requiring No Remedial Construction in the Final OU

This category includes sites where the ROD for the final OU requires no remedial construction activities. Sites with RODs requiring institutional controls, monitored natural attenuation, or monitoring for other than O&M purposes meet site completion requirements once the institutional controls are in place, monitored natural attenuation has reached the cleanup goals, and all monitoring requirements specified in the ROD are met. The site will then be eligible for **site completion** and **site deletion**. **Site completion** is documented through a FCOR.

Sites where No Response Action Was Required

For no action sites the RPM prepares a FCOR (in an abbreviated form because there were no cleanup activities). The FCOR documentation needs to address the justification for no action at the site.

4.3 Final Close Out Report

The FCOR documents compliance with statutory requirements and provides a consolidated record of all removal and remedial activities for the entire site. Since it is the final record, the FCOR must be complete and be able to stand alone. The report does not signify that the terms of cooperative agreements, consent decrees, or administrative orders have been satisfied, nor does it signify resolution of contractual or other administrative issues for Superfund activities.

The FCOR describes how the cleanup was accomplished and provides the overall technical justification for **site completion**. Although the content and format of the report may vary depending on site circumstances, it should include the information presented in Exhibit 4-2. This information should be readily available from previous documents such as the RI/FS, the RODs, the RDs, and the RA reports. The FCOR should also identify issues that might be of continuing concern to EPA or the community and explain why these issues do not preclude the site from achieving site completion.

The FCOR should contain a status report by OU of cost expenditures to date and projected costs into the future (O&M costs). This information is required for Fund-lead projects and should be provided whenever possible for PRP-lead projects. If the project is performed by a PRP, a summary of EPA oversight costs for design and construction should be provided as well.

Usually the RPM prepares the FCOR, but may task the State to prepare it at State-lead sites. The report should normally be 10 to 15 pages, but may be longer for large sites with multiple OUs. To keep the report brief, detailed technical or cost information and data may be referenced or appended to the report. As Exhibit 4-1 shows, EPA Headquarters (HQs) and the State should have an opportunity to review and comment on the report prior to final signature.

EPA HQs has Regional Coordinators assigned to act as primary reviewers of the FCOR. These individuals will work closely with the RPM in performing completion activities and will review the

draft FCOR. After addressing the HQs and State comments and obtaining the signature of the Regional Administrator, a copy of the signed report is forwarded to EPA HQs. Appendix C presents a sample FCOR.

Upon completion of an FCOR the appropriate Trustees listed in the Regional Contingency Plans will be notified of the completion of the remedial action. The Region should provide a copy of the report to the Trustees within one week of the completion of the report.

EXHIBIT 4-2, Final Close Out Report Summary

SECTION	CONTENTS
I. Introduction	• General statement indicating that all response actions at the site have been successfully performed.
II. Summary Of Site Conditions	• Site background. • Removal actions performed. • Remedial investigation / feasibility study results. • ROD findings. • Design criteria. • Cleanup activities performed. • Community involvement activities performed. • Describe redevelopment potential at the site, or any planned or ongoing redevelopment work.
III. Demonstration Of Cleanup Activity QA/QC	• QA/QC protocol followed. • Sampling and analysis protocol followed. • Results of on-site inspections.
IV. Monitoring Results	• Sufficient data to demonstrate cleanup levels specified in the ROD or Action Memoranda are achieved and implemented and remedies are performing to design specifications. • Monitoring required at no action sites after the ROD is signed should be briefly documented in the FCOR.
V. Summary Of Operation And Maintenance	• Description of required O&M activities. • Assurance that O&M plans are in place and are sufficient to maintain the protectiveness of the remedy. • Assurance that all necessary institutional controls are in place. • Assurance that O&M activities specified for the site will be performed by the State or the responsible party.
VI. Summary of Remediation Costs	• ROD estimate of capital costs and annual O&M costs. • Construction contract award amount. • Total remedial action construction cost (i.e., capital costs) at time of FCOR. • Current estimated annual O&M costs.
VII. Protectiveness	• Assurance that the implemented remedy (or no action decision) achieves the degree of cleanup or protection specified in the ROD(s) for all pathways of exposure and that no further Superfund response is needed to protect human health and the environment. • Assurance that all areas of concern described in the NPL listing have been adequately addressed.

VIII. Five-Year Review	• Statement explaining whether a five-year review is appropriate, and if so, the type of review (statutory or policy) and the schedule for the review. • Summary of Five-Year reviews already completed.
IX. Bibliography	• Complete citations of all relevant reports.

4.4 Site Completion Checklist

Site completion activities vary according to site circumstances. For typical sites, however, achieving site completion requires the RPM to:

✓ Verify site completion criteria
- Cleanup activities are successfully implemented and cleanup goals/levels are met
- Remedy is operational and functional
- Institutional controls are in place
- All removal and remedial activities are complete
- Site is protective of human health and the environment
- Assemble all site related reports (PCOR, RAs, OSC Reports, PolReps, etc.)

✓ Prepare FCOR
- Submit draft to HQs and appropriate State for review
- Address comments and complete Final COR
- Submit to Regional Administrator for Signature
- Mail or fax signed copy of FCOR to HQs
- Upon completion of FCOR notify the appropriate Trustees listed in the Regional Contingency Plans.

5.0 SITE DELETION

The National Priorities List (NPL) deletion process begins at most sites once the site completion milestone has been achieved. **Site deletion** requirements ensure that 1) the documentation of activities and decision making at the site is complete, 2) the activities conducted and documented are verified, and 3) the public has an opportunity for notice and comment before a site is formally deleted from the NPL.

The deletion process is dictated by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

Deletion of a site from the NPL does not preclude eligibility for subsequent Fund-financed or responsible party actions. If future conditions warrant, the NCP (40 CFR 300.425(e)(3)) provides that Fund-financed remedial actions may be taken at sites deleted from the NPL. When there is a significant release from a site deleted from the NPL, the site may be restored to the NPL without rescoring the site. Additional enforcement actions also may be taken, depending on liability releases in the consent decree or administrative order. Deletion of a site does not affect cost recovery efforts under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) section 107.

This chapter focuses on the site deletion criteria, process, and documentation required to achieve this milestone. Site deletion criteria presented in this section also applies to partial deletions (see Chapter 6.0, Partial Deletion).

5.1 NPL Deletion Criteria

The NCP (40 CFR 300.425(e)) states that a site may be deleted from, or recategorized on, the NPL when no response / no further response is appropriate. The Environmental Protection Agency (EPA) must consult with the State in making this determination. To delete a site from the NPL, EPA must determine, in consultation with the State, that one of the following criteria has been met:

- Responsible or other parties have implemented all appropriate response actions required;
- All appropriate Fund-financed response under CERCLA has been implemented, and no further response action by responsible parties is appropriate; or
- The remedial investigation has shown that the release poses no significant threat to public health or the environment, and, therefore, taking of remedial measures is not appropriate.

If monitoring to determine the need for a future response action is ongoing at a site, deletion is premature. In this situation, it is impossible to know whether a site satisfies the NCP's deletion standard - "no further response is appropriate." At sites with ground and surface water restoration remedies cleanup goals must be attained before the site qualifies for deletion (see Chapter 4, Section 4.1, Site Completion Criteria) .

Section 300.5, defines response as removal, remedy, or remedial action. EPA interprets that to mean that the site may be deleted when all removals and remedial actions are completed. Operation and Maintenance (O&M) is not defined as a response by the NCP, therefore, a site in O&M can be deleted.

> The NCP (40 CFR 300.435 (f) states that:
> (f) Operation and maintenance. (1) Operation and maintenance (O&M) measures are initiated after the remedy has achieved the remedial action objectives and remediation goals in the ROD, and is determined to be operational and functional, except for ground- or surface-water restoration actions covered under § 300.435(f)(4). A state must provide its assurance to assume responsibility for O&M, including, where appropriate, requirements for maintaining institutional controls, under § 300.510(c).

Site deletion from the NPL has been separated from the Five-Year Review Program (56 FR 66601, December 24, 1991). This means that a site can be deleted from the NPL without having the first Five-year review completed. EPA has separate guidance addressing Five-Year Review requirements.

All deletion related actions will be coordinated with the appropriate Trustees listed in the Regional

Contingency Plans. Upon publication in the Federal Register (FR) of any Notice of Intent to Delete (NOID) or Final Notice of Deletion (NOD), the Region will send a copy of the notice to the Trustees within one week of publication.

5.2 NPL Deletion Through Resource Conservation and Recovery Act Deferral (RCRA)

EPA's "Deletion Policy for Resource RCRA Facilities" (FR Notice 40 CFR Part 300 dated March 20, 1995), later amended to make policy also applicable to Federal Facility sites (FR Notice 40 CFR Part 300 dated November 24, 1997) states that:

> "EPA believes it is appropriate to delete sites from the NPL based upon deferral to RCRA under certain circumstances. Deletion of sites from the NPL to defer them to RCRA Subtitle C corrective action authorities would free CERCLA's oversight resources for use in situations where another authority is not available, as well as avoid possible duplication of effort and the need for an owner/operator to follow more than one set of regulatory procedures."

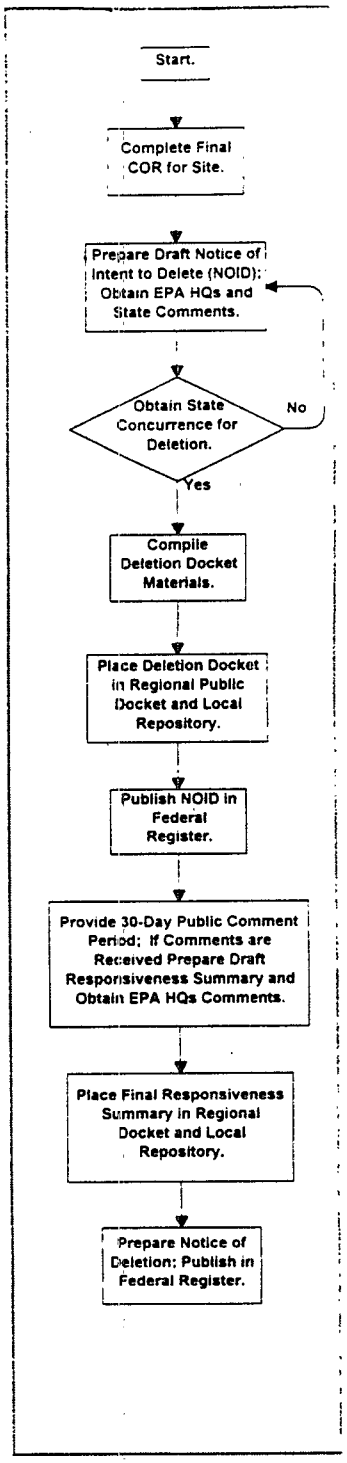
A site can de deleted from the NPL through a RCRA deferral action if it complies with the following criteria:

- The CERCLA site is currently being addressed by RCRA corrective action authorities under an existing enforceable order or permit containing corrective action provisions.
- Response under RCRA is progressing adequately.
- Deletion would not disrupt an ongoing CERCLA response action.

5.3 The Deletion Process

Usually the deletion process begins once the site achieves the **site completion** milestone. In general, the Region initiates the deletion process. A State or an individual may also initiate the process by specifically requesting the deletion of a site. Exhibit 5-1 shows the main steps in the typical deletion process.

EXHIBIT 5-1, Site Deletion Process



The deletion process is divided in three steps: process initiation, publication of the NOID, and preparation of a responsiveness summary (and publication of NOD).

5.3.1 Process Initiation

The Region initiates the deletion process by:

- Obtaining a letter of concurrence from the State,
- Compiling the deletion docket, and
- Preparing a Notice of Intent to Delete

5.3.2 State Concurrence

Early in the deletion process the Region consults with the State and requests their concurrence on EPA's intent to delete the site. A site can not be deleted from the NPL without the State concurrence. If the State agrees with the deletion they will provide a concurrence letter.

5.3.3 Deletion Docket

The Region prepares a deletion docket containing all pertinent information supporting the deletion recommendation. The deletion docket is not a continuation of the Administrative Record for the site. Documents in the Administrative Record can be referenced and do not have to be duplicated in the deletion docket (provided the Administrative Record is still available to the public). The deletion docket should be available to the public at the EPA Regional office public docket and at a local repository. The documents contained in the deletion docket will vary depending on the type of response (e.g., remedial action, removal action, no action) and the lead agency (e.g., Federal, State, or responsible party).

These documents can be included in the deletion docket as applicable:

- Remedial Investigation / Feasibility Study Report
- Record(s) of Decision (ROD) or equivalent for each operable unit, including any ROD amendments or Explanations of Significant Differences
- Consent Decree(s)
- Action Memoranda
- Community Relations Plans
- Superfund State Contract
- Cooperative agreements
- Agreements with potentially responsible parties
- Design plans and specifications
- Construction inspection reports
- On-Scene Coordinator or Pollution Reports
- Documentation of State concurrence letter on deletion
- Operation and Maintenance Plan
- Final Close Out Report
- Transcripts from public meetings
- Bibliography of Administrative Record

Regional program offices should work with their Superfund community involvement staff to ensure that complete copies of the deletion docket are placed in the appropriate Regional and local repositories. The public will have an opportunity to review this docket during the 30-day public comment period that follows publication of the Notice of Intent to Delete (NOID). Public meetings are optional.

5.3.4 Notice of Intent to Delete

The NOID informs the public of EPA's intention to delete a site from the NPL. The deletion docket must be complete before the Region publishes the NOID in the FR. The NOID contains general information about the site, EPA Regional staff and other contacts, and deletion criteria and procedures. It provides for a 30-day public comment period. Site-specific information needed to prepare the NOID should be available from the Final Close Out Report (FCOR); the NOID should contain the sections illustrated in Exhibit 5-2. Appendix D presents an example of a NOID. The draft NOID is sent to EPA Headquarters (HQs) for review and comments. After addressing HQs comments and obtaining the signature of the Regional Administrator, the NOID is published in the FR.

EXHIBIT 5-2, Notice of Intent to Delete Summary

SECTION	CONTENTS
I. Summary	• Announcement of intent to delete.
II. Dates	• Dates for 30-day public comment period and submission of comments.
III. Addresses	• Name, address, and phone number of a Regional contact where comments may be sent and location of the Regional Docket and local repository.
IV. Further Information Contact	• Name, address, and phone number of a Regional contact for further information or questions.
V. Supplementary Information	• Table of Contents
VI. Information	• Identification of site to be deleted, and summary of information in FCOR.
VII. NPL Deletion Criteria	• List of applicable NCP criteria (40 CFR 300.425(e)) and a statement indicating that EPA retains the ability to use Superfund authority at a deleted site if future conditions warrant such actions (40 CFR 300.425(e)(3)).
VIII. Deletion Procedures	• Brief description of procedures followed to delete sites from the NPL.
IX. Basis For Intended Site Deletion	• Brief description of the following items: - Site history (location, former use, type of contaminants, FR citation of proposed and final NPL listing, and site conditions resulting in listing). - All response actions taken including scope of Remedial Investigation, if applicable, general results, and conclusions regarding future performance of these actions. - Specific cleanup goals and criteria and results of all confirmatory sampling and analysis. - O&M procedures and site monitoring program. - Reasons for the need for future five-year reviews, when appropriate, and plans for performance of such reviews. - Major community involvement activities. - How site meets deletion criteria. - State concurrence to delete the site.

5.3.5 Publication of the Notice of Intent to Delete and the Local Notice

The Region prepares and publishes the NOID in strict accordance with the Federal Register publication requirements. EPA HQs staff will review these notices to ensure national consistency and completeness.

The Regional Superfund Community Involvement Coordinator (CIC) should also prepare and distribute a local notice regarding the NOID. This notice should be published in a local newspaper of general circulation. It should announce the Agency's intent to delete the site from the NPL and the 30-day public comment period. The local notice should also provide an address and telephone number for submission of comments, and identify the location of

the local repository. Appendix H presents a sample local notice.

The CIC coordinator should also prepare a press release and distribute it to the community, State, and local officials; all PRPs; appropriate Federal agencies (including the Agency for Toxic Substances and Disease Registry, the National Response Team, and the appropriate Trustees listed in the Regional Contingency Plans); Superfund enforcement personnel; the Office of Regional Counsel (ORC); and any local repositories. In addition, the ORC should inform the State Attorney General and other interested agencies (State or Federal courts and the U.S. Department of Justice) of the intended deletion of the site.

5.3.6 Responsiveness Summary and Notice of Deletion

The Region is responsible for preparing a responsiveness summary for all local and national comments received. The responsiveness summary should present all comments received during the public comment period paired with detailed responses to the comments. A draft of the responsiveness summary is sent to EPA Headquarters for review and comment. The Region must include a copy of the responsiveness summary, approved by the Regional Administrator, in the Regional docket and local repository.

The Notice of Deletion (NOD), which includes an effective date (the date of publication), the name of a Regional contact, supplemental site information and the responsiveness summary, is signed by the Regional Administrator and published in the Federal Register. The NOD states that all appropriate Fund-financed responses under CERCLA have been implemented and that no further response is appropriate. Appendix I presents a sample Notice of Deletion.

5.4 Streamlining the Deletion Process

A streamlined process to delete sites from the NPL has been proposed by a Region. The process has been reviewed by the Office of Regional Counsel and other EPA HQs staff and there is agreement that at selected sites the process may be used to streamline the deletion process.

To obtain more information the Regions must consult with the appropriate Regional Center in HQ before using the streamlined approach. This approach streamlines the deletion process by combining the NOID and NOD thereby reducing the amount of internal time needed to finalize the deletion. Under this process, sites would be deleted from the NPL using a direct final notice procedure. In a direct final deletion action EPA would publish both a NOID and NOD in the FR and declare that the NOD will become effective unless EPA receives adverse or critical comments during the 30-day public comment period. If no adverse or critical comments are received, the deletion would become effective without any further EPA action. This approach would only be appropriate at sites where no comments are expected.

5.5 Site Deletion Checklist

For a site to achieve deletion, the RPM must:

- ✓ Apply NCP criteria to verify deletion eligibility
- ✓ Obtain State concurrence for site deletion
- ✓ Compile deletion docket
  - Distribute deletion docket to appropriate repositories
- ✓ Complete NOID procedures
  - Prepare draft
  - Submit to EPA HQs and State for review and comment
  - Address HQ and State comments
  - Publish in Federal Register
  - Provide a 30-day comment period
  - Upon publication of the NOID notify the appropriate Trustees listed in the Regional Contingency Plans
- ✓ Complete Responsiveness Summary
  - Prepare Responsiveness Summary
  - Submit to EPA HQs for review and comment
  - Obtain Regional Administrator Approval
  - Submit to Regional Docket and Local Repository
- ✓ Draft NOD
- ✓ Publish NOD in Federal Register
- ✓ Upon publication of the NOD notify the appropriate Trustees listed in the Regional Contingency Plans

6.0 PARTIAL DELETION

The Partial Deletions Rule, which allows the Environmental Protection Agency (EPA) to delete portions of National Priorities List (NPL) sites, provided that deletion criteria are met, was published in the Federal Register (FR) on November 1, 1995. Previously, EPA's policy had been to delete only after cleanup of the entire site. However, deletion of entire sites does not communicate the successful cleanup of portions of those sites. Total site cleanup may take many years, while portions of the site may have been cleaned up and may be available for productive use. Such a portion may be a defined geographic unit of the site, perhaps as small as a residential unit, or may be a specific medium at the site, e.g., ground water, depending on the nature or extent of the release(s).

Any person, including individuals, business entities, States, local governments, and other Federal agencies may submit a petition requesting a partial deletion. A petition may consist of a simple written request from any interested party. The Office of Emergency and Remedial Response (OERR) Directive 9320.2-11, Procedures for Partial Deletions at NPL Sites, dated April 30, 1996, OERR Directive 9320.2-11, EPA 540/R-96/014, PB 96-963222, provides information about partial deletions. See Appendices H and I for examples of Notice of Intent of Partial Deletion (NOIPD) and Notice of Partial Deletion (NOPD).

The partial deletion process is dictated by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Deletion of a portion of a site from the NPL, however, does not preclude eligibility for subsequent Fund-financed or potentially responsible party actions. If future conditions warrant, the NCP (40 CFR 300.425(e)(3)) provides that Fund-financed remedial actions may be taken at portions of sites deleted from the NPL. When there is a significant release from a portion of a site deleted from the NPL, the portion of the site may be restored to the NPL, without rescoring the site under the Hazard Ranking System (HRS). Additional enforcement actions also may be taken, depending on liability releases in the consent decree or administrative order. Deletion of a portion of a site does not affect cost recovery efforts under CERCLA section 107.

All partial deletion related actions will be coordinated with the appropriate Trustees listed in the Regional Contingency Plans. Upon publication in the Federal Register of any NOIPD or the NOPD, the Region will send a copy of the notice to the Trustees within one week of publication.

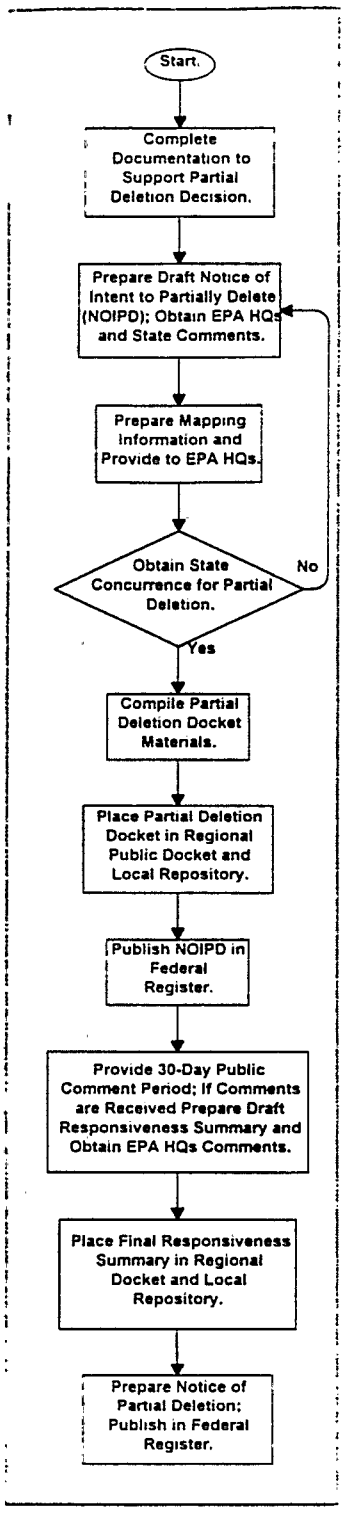
6.1 Partial Deletion Process

The NPL partial deletion process begins at most sites once a portion of the site has been cleaned up and site deletion criteria are met for that portion of the site. Requirements for the partial deletion area are the same as for the full deletion (see Section 5.3). Two differences are the mapping requirements for the partially deleted area and the documentation that supports the decision to partially delete. These will be discussed fully in Section 6.2. **Partial deletion** requirements ensure that 1) the documentation of activities and decision making at the portion of the site is complete, 2) the activities conducted and documented are verified, 3) the area of the site to be deleted is clearly and accurately defined / delineated, and 4) the public has an opportunity for notice and comment before the portion is formally deleted from the NPL.

In general, the Region initiates the partial deletion process. A State or an individual may also initiate the process by specifically requesting the partial deletion of a site. Exhibit 6-1 shows the main steps in the typical partial deletion process.

The partial deletion process is divided in five steps: process initiation, preparation of mapping data, publication of the NOIPD, and preparation of a responsiveness summary and publication of NOPD.

EXHIBIT 6-1, Partial Deletion Process



6.2 Special Partial Deletion Requirements

In order to accurately portray the portion of the site to be deleted, information about the area of the parcel or parcels to be deleted must be consistent and accurate. For this reason, it is important for HQs to obtain relevant locational information from the Regions for each partial deletion. This information will be centrally housed in the Superfund NPL Assessment Program (SNAP) database. The SNAP database tracks site information collected for the HRS packages at the time of listing. This information will also be maintained in other HQ Geographical Information Systems (GIS).

The Partial NPL Site Deletion Data Collection Form (see Appendix G) is designed to standardize partial site deletion information for input into SNAP and other HQ GIS systems. The primary source materials for completing this form are the NOIPD, site information supporting the decision to delete the portion of the site, and electronic locational data. Requirements for submitting electronic locational data are included in EPA's Locational Data Policy.

Partial deletion dictates strict mapping and tracking requirements. These mapping requirements will be applied to outline and precisely delineate the portion of the site to be deleted. This will foster a clearer public understanding of exactly what properties may or not be included in the NPL site. Precise mapping will accomplish this goal efficiently.

The mapping information will provide a national compilation of the total area that has been subject to the partial deletion policy and improve information on site locations. Approval for publication of the NOIPD will be given once the accuracy of the locational information is verified.

6.2.1 Mapping Requirements

The mapping requirements of a partial deletion package includes the following items:

- A map, in electronic GIS format, clearly showing the entire site and that portion to be deleted (including scale);
- Site coordinates (latitude and longitude) that delineate the boundary of parcel or parcels to be deleted.

- Landmarks, such as roads, water bodies, waste operations, or residential areas (these facilitate reading the map).
- Contacts for both the partial deletion decision and the electronic data.

The site map must be dated. The date is to reflect the delineation of the boundaries of the site as of the date prepared, including the portion to be deleted. Geographic coordinates of points describing a specific object (e.g., operable unit or portion of the site to be deleted) should be included. For additional information about mapping requirements see Appendix G.

Regions should also contact their Regional GIS coordinator to obtain assistance in developing and preparing the required mapping information. The following is a list of the Regional GIS Coordinators:

Region 1: Deborah Cohen, 617-565-3659
Region 2: Harvey Simon, 212-637-3594
Ildefonso Acosta, 212-637-4344
Region 3: Don Evans, 215-814-5370
Region 4: Rebecca Kemp, 404-562-8027
Region 5: Noel Kohl, 312-886-6224
Region 6: David Parrish, 214-665-8352
Region 7: Vickie Damm, 913-551-7247
Region 8: Karl Hermann, 303-312-6628
Region 9: Cheryl Henley, 415-744-1754
Region 10: Matt Gubitosa, 206-553-4059

The list of Regional GIS Coordinators can also be found on the intRAnet at:

http://intranet.epa.gov/oerrinet/regional/regions1-5.htm

6.2.2 Documentation to Support the Partial Deletion Decision

In a full deletion a Final Close Out Report (FCOR) is prepared to document site completion (see section 4.1 and 4.3). In the case of a partial deletion an FCOR will not yet exist. Therefore, another document will have to serve the same purpose as an FCOR for the portion(s) of the site that are being considered for deletion. These documents may be: Remedial Action Reports, No Action RODs, ESDs or ROD Amendments, Final Pollution Reports, or a memo to the file. Depending on the site circumstances any one of these documents can be used to document any of the following: that all work has been completed at a portion(s) of the site, including achieving cleanup goals; no further action is needed; or the RI/FS has determined that the portion(s) of the site is not contaminated and therefore warrants no response action. This document will be the basis for partially deleting a portion(s) of the site and will be part of the partial deletion docket.

6.3 Partial Deletion Checklist

For a site to achieve partial deletion, the RPM must:

✓ Provide documentation that supports the basis for deletion (section 6.2.2)
✓ Apply NCP criteria to verify deletion eligibility
✓ Obtain State concurrence for partial site deletion
✓ Compile partial deletion docket
- Distribute partial deletion docket to appropriate repositories
✓ Complete mapping requirements
- Submit to EPA HQ for review and comment
✓ Complete NOIPD procedures
- Prepare draft NOIPD
- Submit to EPA HQs for review and comment
- Publish in Federal Register
- Provide a 30-day comment period
- Upon publication of the NOIPD notify the appropriate Trustees listed in the Regional Contingency Plans
✓ Complete Responsiveness Summary
- Prepare Responsiveness Summary
- Submit to EPA HQs for review and comment
- Obtain Regional Administrator Approval
- Submit to Regional Docket and Local Repository
✓ Draft Notice of NOPD
✓ Publish NOPD in Federal Register
✓ Upon publication of the NOPD notify the appropriate Trustees listed in the Regional Contingency Plans

6.4 When Can You Partially Delete

To help clarify when a site can have a partial deletion, three different sites are given as examples. These examples range from simple to more complex situations.

Example 1: At the Geneva Industries site in Houston, Texas, the source removal and soil removal actions were complete. The ground water pump and treat portion of the site would continue for a longer period of time. Institutional controls were put in place to prevent disturbance of a RCRA cap, slurry wall and ground water distribution lines. The surface of this site was partially deleted to allow site reuse.

Example 2: Another partially deleted site was the Lakewood Site in Lakewood, WA. In this case the clean up goals had been achieved for the soil OU. Therefore, the soil OU was partially deleted. This allowed reuse of this portion of the site. The ground water OU will remain on the NPL until clean up goals are achieved.

Example 3: A more complicated site was the Celanese Corporation Shelby Fiber Operations located at Shelby, NC. Three portions of the site were partially deleted. These consisted of the OU 1 outer tier groundwater extraction wells location area, OU 2 soil remediation area, and a nearby stream segment. In OU 1 groundwater samples showed that remediation levels had been achieved. The data also indicated that the inner tier wells were containing the remaining ground water contamination. At OU2 the soil remediation had been completed. The stream remediation area was examined and it was determined that it did not need any further remediation. Therefore, all three of these areas qualified for partial deletion.

For a site to be partially deleted all deletion criteria for the area that is being considered for deletion must be met.

6.5 Sites with Partial Deletions

The following is a list of sites that had a portion(s) of the site successfully partially deleted from the NPL through FY99. To obtain additional information about these sites please refer to the Federal Register Reference Number provided.

1) Bypass 601 Groundwater Contamination, Concord, NC, Region 4; *63FR 51530*, 09/28/1998
2) Celanese Corporation Shelby Fiber Operations, Shelby NC, Region 4; *63FR 19193*, 04/17/1998
3) Com Bay, Near Shore Tide Flats, Tacoma, WA, Region 10; *61FR 55751*, 10/29/1996
4) General Electric Shepherd Farm, East Flat Rock, NC, Region 4; *61FR 56477*, 11/01/1996
5) Geneva Industries, Houston, TX, Region 6; *62FR 16706*, 04/08/1997
6) Harbor Island, Seattle, WA, Region 10; *61FR 57594*, 07/08/1998
7) Hanford 100-Area (USDOE), WA, Region 10; *63FR 36861*, 07/08/1998
8) American Cyanamid, Boundbrook, NJ, Region 2; *63FR 71597*, 12/29/1998
9) Lakewood Site, Lakewood, WA, Region 10; *61FR 60197*, 11/27/1996
10) Para-Chem Southern, Inc., Greenville County, SC, Region 4; *62FR 65225*, 12/11/1997
11) Prewitt Abandoned Refinery, Prewitt, NM, Region 6; *63FR 4397*, 01/29/1998
12) Saegertown Industrial Area Site, Saegertown, PA, Region 3; *62FR 52032*, 10/06/1997
13) Sangamo Weston/Twelve mile Creek/Lake Hartwell, Pickens County, SC, Region 4; *63FR 51529*, 09/28/1998
14) South Andover Salvage Yards, Andover MN, Region 5; *63FR 57608*, 10/28/1998
15) Treasure Island Naval Station - Hunters Point Annex, San Francisco, CA, Region 9; *64FR 16351*, 04/05/98
16) Koppers Company, Inc., Morrisville, NC, Region 4; *62FR 46211*, 09/02/1997

Appendix A - REMEDIAL ACTION REPORTS

Remedial Action Report

Record of Preparation, Review, and Approval

U Creosote Superfund Site

Operable Unit 2

Land Treatment of Contaminated Soils

This report has been prepared in accordance with EPA OSWER Directive 9320.2-09A and will be used, along with the Remedial Action Report for OU 1, as the basis for development of the site Final Close Out Report.

RA Report Prepared By:	**PRP Agent:**	*Signature* _____ *Name/Title/Company* _____ *Date* _____
Approved By:	**EPA Region 4 Approving Official:**	*Signature* _____ *Name/Title* _____ *Date* _____

Appendix A - Sample Remedial Action Report

This Sample Remedial Action Report is based on an actual Superfund site, but some information has been altered for illustrative purposes.

Content and format of actual Remedial Action Reports prepared may vary from this sample due to considerations such as project lead and support roles, availability of information, and site-specific conditions.

For more about preparing a Remedial Action Report, refer to OSWER Directive 9320.2-9A-P, "Close Out Procedures for National Priorities List Sites," EPA 540-R-98-016.

REMEDIAL ACTION REPORT

U CREOSOTE SUPERFUND SITE, LIVE OAK, FLORIDA

EPA CERCLIS ID NUMBER FLXXXXXXXXXX

LAND TREATMENT OF CONTAMINATED SOILS (OU 2)

I. INTRODUCTION

The U Creosote Superfund Site is located approximately two miles from the City of Live Oak, Suwanee County, Florida, at the intersection of Sawmill Road and Goldkist Road. Homes, businesses, light industry, a trailer park, a private airport, and a county storage yard are located within one-half mile of the site. Approximately 450 people live in the trailer park. Sinkholes and public and private wells lie within two miles of the site.

From 1948 to 1986, the ABC company operated the U Creosote site as a lumber treatment facility. Lumber treatment processes included the pressure-treatment of lumber products, mainly with creosote and occasionally with pentachlorophenol (PCP). Small rail cars were used to move lumber to two treatment cylinders. A mixture of either creosote and water or PCP and petroleum was used to treat the lumber. The treated lumber was dried on racks over bare soil and stored in an area north of the treatment cylinders.

Wastewater from the treatment cylinders was discharged to an oil-water separator. The creosote recovered from the oil-water separator was sent to a storage tank for reuse. If the creosote was determined to be off specification, it was sent to a spent creosote storage tank and properly disposed of at an off-site location at a later date. Wastewater from the oil-water separator discharged through a culvert and drainage ditch to an unlined three-acre lagoon located in the southwest corner of the site.

In 1989, a former owner of the facility notified Region 4 of the U.S. Environmental Protection Agency (EPA) that hazardous materials may have been handled at the site. In response, the Florida Department of Environmental Regulation (FDER) conducted sampling at the site in July 1990. The results showed that soil and sludge in the area of the treatment cylinders were contaminated with a number of organic compounds and that the treatment cylinders contained small amounts of solidified creosote and PCP. In addition, creosote was found in the lagoon and the storage tanks. No contamination was detected in the aquifer underlying the site. EPA proposed in December 1990 that the site be placed on the National Priorities List (NPL). The listing of the site became final in September 1991.

The potentially responsible parties (PRP) conducted a remedial investigation / feasibility study (RI/FS) at the site between 1992 and 1996 under the terms of a Federal administrative order on consent (AOC). Testing during that time confirmed that soils and sediments in the lagoon and drainage ditch were contaminated with polycyclic aromatic hydrocarbons (PAH). During the RI/FS, EPA and the PRPs agreed to address the site as two operable units (OU).

OU 1 included the lagoon and the former plant facility. Cleanup activities were completed in March 1996, under a Record of Decision (ROD) signed on July 25, 1995. The lagoon was drained, contaminated sludge and sediment was excavated, and wastewater was treated and discharged to a publicly owned wastewater treatment facility. Highly-contaminated sludge and soil were solidified on site.

A ROD for OU2 was signed March 8, 1996, which is the subject of this report.

II. OPERABLE UNIT BACKGROUND

The remedy described in the ROD for OU 2 included:

- On-site biodegradation of remaining, less-severely contaminated soils in a land treatment area constructed with a liner, internal drainage, and spray irrigation system;

- Activities necessary to the proper functioning of the land treatment process;
- After treatment, covering the land treatment area with clean fill and re-vegetating; and
- Five years of groundwater monitoring to verify that it remains uncontaminated.

The cleanup goals in the ROD were: Within two years from initial seeding, the land treatment process must reduce the concentration of TCIC to 100 mg/kg throughout the volume of the material treated. The goals were based upon a risk assessment that focused on attaining at least a 1×10^{-6} risk for ingestion of contaminated soil by a child. The risk assessment assumed a future industrial land use scenario, with no institutional controls. Cleanup goals were described by the total concentration of six carcinogenic indicator constituents of creosote -- benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, dibenzo(a, h)anthracene, and indeno(1,2,3,c,d)pyrene – referred to as total carcinogenic indicator chemicals (TCIC). EPA selected the six of the approximately two hundred compounds that make up creosote because of their concentrations in sludge and soil at the site and their carcinogenic nature. The concentrations of TCIC in the soil to be treated ranged from 100 to 208 mg/kg.

The September 15, 1996, ROD amendment included:

- Soils contaminated at levels exceeding 100 mg/kg, but less than 5,000 mg/kg TCICs, were to be biodegraded in the on-site land treatment area.
- Soils found contaminated at levels exceeding 5,000 mg/kg TCICs were to be removed, stabilized, and disposed of at an EPA-approved hazardous waste disposal facility along with the solidified, OU 1 waste (7,500 yd^3).
- If the land treatment process did not attain the cleanup goals for the TCIC within two years, but quarterly monitoring showed substantial progress toward meeting the cleanup goals, EPA would consider extending the treatment period. However, if substantial progress could not be identified, EPA would consider alternative means of addressing the contaminated soils, such as capping, removal, incineration, solidification, or vitrification.
- Groundwater monitoring would begin upon completion of construction of the land treatment area.

Based on the original ROD and the ROD amendment, the remedial design was prepared for construction of the remedy. The design was completed in five months and approved by EPA September 15, 1998, for implementation of the remedial action.

III. CONSTRUCTION ACTIVITIES

Site Preparation

Site preparation activities included clearing, grubbing, and grading the land where the land treatment area was to be constructed; building a drainage swale around the land treatment area; preparing a temporary, central soil stockpile area consisting of several lined cells; and installing a perimeter fence with signs warning against exposure to hazardous material. Approximately four acres were cleared. An estimated 200 cubic yards of contaminated soil found to contain less than 5,000 mg/kg TCICs were excavated during the site preparation activities and stored in the central stockpile area along with previously excavated, contaminated soil.

Off-Site Disposal of the Solidified, OU 1 Waste

To dispose of the 7,500 cubic yards of solidified OU 1 waste, a suitable receiving facility in Emelle, Alabama, operated by Chemical Waste Management, Inc. (CWM), was identified. The waste was shipped off site to the facility in Emelle on December 1, 1996.

Construction of the Land Treatment System

A clay layer ranging from one to three feet in thickness was installed throughout the four-acre land treatment area. The clay was taken from a borrow pit located elsewhere on the site. The borrow pit was shaped and used as a 750,000-gallon retention pond for collecting water and leachate from the land treatment area. Compacted clay berms were placed around the land treatment area and around the soil stockpile area. Swales were installed outside the treatment area to intercept and redirect run-on.

The land treatment area was prepared with a one percent slope to the northwest corner, where the subsurface drainage system drained under the berm into a gravel-lined swale that led to the retention pond. The drainage system consisted of 12-inch-wide, flat, perforated pipe laterals, spaced every 50 feet in an east-to-west direction. The pipes connected to a south-to-north drainage trench containing cylindrical, perforated piping sloping to a sump in the northwest corner of the land treatment area. The entire subsurface drainage system was covered with a minimum of six inches of clean, sorted sand. Finally, a portable irrigation system, delivering water at 0.5 inches per hour to an area 70 feet in diameter, was installed at the retention pond, which recirculated the collected water and sprayed the water over the land treatment area.

System Operation

Land treatment was performed in three lifts, with a total of 8,100 yd^3 of soil treated: 3,300 yd^3 (Lift 1); 3,000 yd^3 (Lift 2); and 1,800 yd^3 (Lift 3). For site management and sampling purposes, the land treatment area was divided into eight half-acre, rectangular subplots. A composite sample was collected from each subplot each quarter, until the concentration of TCICs in the soil in the subplot was less than 100 mg/kg. An additional lift of soil from the stockpile area then was placed in the subplot. The process was repeated until all of the stockpiled soil had been placed in the land treatment area.

In general, the soil for each lift was placed 4 to 12 inches thick in the land treatment area and inoculated with PAH-degrading microorganisms. The inoculum, sprayed on the soil, was developed by growing seed cultures in mobile, on-site reactor tanks equipped with aeration and mixing equipment. The land treatment area was cultivated once every two weeks. An irrigation system was used to maintain a ten percent soil moisture content. The concentration of microorganisms in the soils at the land treatment area was found to be adequate to support biological activity, and no inoculum was applied for the second or third lift. Additionally, the total number of lifts applied to each subplot varied because several of the half-acre areas exceeded the TCIC concentrations of 100 mg/kg. Subsequently, no additional soil was placed in those subplots until the analytical results indicated less than 100 mg/kg.

Appendix A contains additional data on the characteristics, site conditions, and operating parameters for the system.

Approximately 50 cubic yards of construction debris were removed from the soil and buried on the site. After validation of the final sampling results and determination that the cleanup goals had been met, the site was backfilled with clean soil and seeded on September 1, 1998.

IV. CHRONOLOGY OF EVENTS

Date	Event
March 8, 1996	ROD for OU 2 signed.
August 3, 1996	Remedial Design (RD) submitted.
September 15, 1996	RD approved; ROD amendment signed.
October 3, 1996	Construction of the land treatment area began.

Date	Event
December 1, 1996	Solidified waste from OU1 transported and disposed of off site.
December 12, 1996	PRPs, EPA, and the State conduct pre-final inspection of the land treatment area.
January 12, 1997	PRPs, EPA, and the State conduct final inspection of the land treatment area.
January 19, 1997	Operation of land treatment area begun; first lift of soil applied to treatment subplots; sampling of soil in treatment plots begun.
January 20, 1997	Semiannual groundwater monitoring initiated .
June 12, 1997	Preliminary Close Out Report for site signed for site construction completion.
September 15, 1997	Second lift of soil applied to treatment subplots.
March 14, 1998	Third lift of soil applied to treatment subplots.
June 28, 1998	Final sampling of soil in treatment subplots and in other designated site areas conducted.
July 24, 1998	Final soil sampling results validated: cleanup goals achieved.
September 1, 1998	Land treatment area demobilized and re-vegetated.
September 22, 1998	PRPs, EPA, and the State conduct pre-certification inspection of the completed remedial action.
Ongoing	Semiannual groundwater monitoring.

V. PERFORMANCE STANDARDS AND CONSTRUCTION QUALITY CONTROL

Initial concentrations of PAHs in untreated, stockpiled soil ranged from 100 to 208 mg/kg. Upon completion of land treatment, the concentration of TCICs in soil ranged from 23 to 92 mg/kg.

All soil and sludge samples collected during operation of the land treatment area were analyzed for PAHs. EPA Method 8270 was used to measure the concentrations of PAHs in all samples. Composite samples were collected quarterly from eight subplots in the land treatment area over an 18-month operating period. Once the cleanup goal had been achieved in a subplot, that subplot was not monitored further until an additional lift of soil was applied to the subplot.

TABLE 1 - PERFORMANCE RESULTS COMPARED WITH REMEDIATION OBJECTIVES / CLEANUP GOALS

Remediation Objectives / Cleanup Goals	Performance Results
Reduce concentration of TCICs to 100 mg/kg.	Sampling conducted in June 1998 indicated that the concentration of TCICs was less than 100 mg/kg and ranged from 23 to 92 mg/kg in the eight subplots.
Attain desired cleanup goals within two years after startup of the land treatment operation.	Cleanup levels were attained within 18 months after startup of the land treatment operation.

TABLE 1 - PERFORMANCE RESULTS COMPARED WITH REMEDIATION OBJECTIVES / CLEANUP GOALS

Remediation Objectives / Cleanup Goals	Performance Results
Identify, remove, stabilize, and dispose (off site) of excavated OU 2 soils with TCIC levels greater than 5,000 mg/kg.	Sampling detected no soils with contamination above this specified level.
Dispose (off site) of 7,500 yd^3 of solidified, highly-contaminated soil and sludge.	7,500 yd^3 were removed from the site and disposed of in the CWM landfill in Emelle, Alabama.

Quality Assurance and Quality Control

The QA/QC program used throughout the operation of the land treatment area was outlined in the RD/RA work plan and Quality Assurance Project Plan (QAPP) approved by EPA. The program enabled EPA to determine that all analytical results reported were accurate and adequate to ensure satisfactory execution of the remedial action, in a manner consistent with the requirements of the ROD.

The RA contractor conducted sampling and analysis activities on the soils each quarter. EPA took split samples during three sampling events, including the final sampling event on June 28, 1998. EPA periodically conducted oversight of the PRP contractor's field sampling procedures. While deviations from the approved protocols were identified, none was sufficiently significant to cause rejection of the data. Matrix spike, duplicate, and blank samples were analyzed by the laboratory, and the resulting data provided to EPA. On the basis of the split sample data, the confirmatory sampling data were acceptable to EPA. The Florida Department of Environmental Regulation (FDER) also reviewed the data and found the data to be acceptable.

The QA/QC program is also being used for the semiannual sampling of groundwater.

VI. FINAL INSPECTION AND CERTIFICATION

Inspections

The pre-final inspection of the land treatment area construction was held on site December 12, 1996, in the presence of EPA, PRP, and FDER representatives. The FDER representative noted the need to fence the lagoon for the protection of the public, and a fence was constructed around the lagoon area.

The final inspection was conducted January 12, 1997. EPA, the PRPs, FDER, the Florida Department of Health and Rehabilitative Services (FDHRS), the Suwanee County Coordinator, and the Mayor of Live Oak were present. Representatives verified by review of the manifest that the 7,500 cubic yards of solidified OU 1 waste had been properly transported and disposed off site at the CWM landfill in Emelle, Alabama. No punch-list items were identified, and land treatment of the stockpiled contaminated soil was authorized to begin immediately.

Observations, inspections, and testing during operation of the land treatment process found no significant operational problems affecting the performance of the remedial action. A business east of the site reported experiencing nuisance smells after the contaminated soils in the land treatment area were tilled. In response, an effort was made to till when the wind direction was away from the businesses to the east of the site. No further comments about odors were received during the land treatment operation.

Health and Safety

No health and safety problems were encountered during construction or operation. Modified Level D personal protective equipment (PPE) was required for all site personnel who came into direct contact with the contaminated soil. The equipment included coveralls, safety boots, nitrile gloves, and particulate masks.

Certification of Completion

A pre-certification inspection of the completed remedial action was conducted on September 22, 1998, by representatives of the PRPs, EPA and the FDER. On October 17, 1998, the PRPs provided a written report that the remedial action has been fully performed and the Performance Standards of the Consent Decree have been attained.

VII. OPERATION AND MAINTENANCE

The land treatment area was seeded in September 1998. The vegetative cover will be reseeded in Spring 1999 as necessary.

The semiannual groundwater monitoring program began in January 1997. No TCICs have been detected as of the July 1998, sampling; however, naphthalene has been detected persistently at low levels in groundwater monitoring well No. 7. The levels of naphthalene are below any action level. As specified in the ROD, the PRPs will continue semi-annual monitoring of groundwater through 2002 to confirm that groundwater will not be adversely impacted by the land treatment activities.

VIII. SUMMARY OF PROJECT COSTS

Table 2 provides a summary of the costs for each major cost element and a comparison of the actual project costs with the ROD estimate of project costs. Unit costs for soil treatment were $45/yd^3 for 8,100 yd^3 of soil treated. Based on an average soil density of 1.2 tons/yd^3, the unit cost for this application was $36/ton for 9,700 tons of soil treated. Appendix A provides an annotated breakout of the actual costs.

TABLE 2 - COST SUMMARY

Cost Item	ROD Estimate (1996 $$)	ROD Estimate (1998 $$)[1]	Actual Cost (1998 $$)
RA Capital Cost	$266,000	$306,000	$227,437
RA Operating Cost	258,000	295,000	129,325
Total RA Cost	524,000	600,000	356,762
Projected O & M Cost[2]			21,000
Difference between total project cost and total ROD cost estimate[3]	-$243,238 or -41%		

[1] = ROD Cost was adjusted from 1996 $$ to 1998 $$ using 7% annual inflation rate.

[2] = Ground water monitoring was not included in original ROD.

[3] = Difference between project cost and ROD estimate is largely attributable to 18 months of actual treatment instead of 24 months planned in the ROD.

IX OBSERVATIONS AND LESSONS LEARNED

- The project cost 41% less than the ROD estimate, largely due to reduced labor and materials costs associated with achieving cleanup goals in 18 instead of 24 months. Use of an on-site laboratory also contributed to savings.
- The land treatment application was found to be more effective at remediating soils on the site when the soils were tilled once every two weeks, rather than once every four weeks, as was originally planned.

- Application of fertilizers to the soils at the site proved to be unnecessary because of the naturally high concentrations of inorganic nitrogen and phosphorous in the soil.
- The relatively mild year-round temperatures at the site provided a beneficial growing environment for the inoculum of PAH-degrading microorganisms. Consequently, relatively high numbers of microorganisms remained in the soil, thus reducing the need for repeated soil inoculations.
- Soils at the site were difficult to till after heavy rains. Natural drying of the soil took an average of two weeks before tractors could be operated on the land treatment area.
- Precautionary measures to avoid nuisance odors on neighboring properties may be necessary in land treatment remedies.

X. CONTACT INFORMATION

The PRPs used the following contractor for the RA:

Primary Contact Name and Title

Company Name

Address

Phone Number

The EPA used the following contractor for oversight of the RA:

Company Name *Contract Number* _____

Address *Work Assignment Number* _____

Phone Number

The following companies analyzed samples:

For the PRPs: *Company Name*
Address
Phone Number

For the EPA: *Contract Number*
Company Name
Address
Phone Number

The project manager for the PRPs was:

Name

Company Name

Address

Phone Number

The project manager for the EPA was:

Name

U.S. EPA Region __

Address

Phone Number

APPENDIX A -- REMEDIAL ACTION REPORT
U CREOSOTE, LIVE OAK, FL (OU 2).

The specific parameters presented in Appendix A were prepared in accordance with the "Guide to Documenting and Managing Cost and Performance Information for Remediation Projects." EPA 542-B-98-007. Regions are encouraged to use the recommended procedures outlined in this Guide for documenting cost and performance information as part of the Remedial Action Report.

TABLE 1 - CHARACTERISTICS AND SITE CONDITIONS

Parameter	Site Conditions	Measurement Procedure / Comment*
Environmental Setting		
Air temperature (°F)	71 (average for 1997) 72 (average for 1998)	NA
Humidity (%)	76 (average for 1997)	NA
Barometric pressure (inches of mercury)	30.07 (average for 1997)	NA
Average rainfall (inches)	50.39 (1997) 43.53 (1998)	NA
Soil Types		
Soil classification	Mixture of lagoon contents: lagoon had a clay bottom and sandy contents, which ranged from silty clay to fine sand	Because the medium treated was a mixture of lagoon contents, it did not lend itself to a formal classification analysis.
Aggregate Soil Properties		
pH	6.9	The value listed represents an average measured during one of the sampling events; EPA Method SW-846/9045 was used to measure the pH of the soil.
Total organic carbon	16,000 mg/kg	The value listed represents an average measured during one of the sampling events; EPA Method SW-846/9060 was used to measure the total organic carbon in the soil.
Quantity of soil treated	8,100 yd^3 (total for 3 lifts)	NA

* NA - not applicable. Measurement procedures are reported only for those parameters where different procedures are available.

TABLE 2 - OPERATING PARAMETERS

Parameter	Site Conditions	Measurement Procedure / Comment*
System Parameters		
Soil mixing rate frequency	Soil placed in the subplots was tilled every two weeks.	Mixing rate or frequency is the rate of tilling for land treatment.
Soil moisture content (%)	12.4 - 22.8 (Lift 1) 12.9 - 21.1 (Lift 2) 8.5 - 14.7 (Lift 3)	Soil moisture was measured using the gravimetric ASTM standard D 2216-90, *Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock.*
pH	6.6 - 7.2 (Lift 1) 6.8 - 7.5 (Lift 2) 6.4 - 7.0 (Lift 3)	Values shown represent the ranges of pH for each lift. EPA Method SW-846 9045 was used to measure the pH content.
Residence time (months)	9 - 15 (Lift 1) 6 - 10 (Lift 2) 4 (Lift 3)	Ranges are given for each lift because of the variations by subplot.
Soil temperature (°F)	13 - 99 (Lift 1) 13 - 102 (Lift 2) 29 - 102 (Lift 3)	NA
Biological Activity		
Carbon Total Kjeldahl Nitrogen	8.8 - 15.4 (Lift 1) 8.8 - 78 (Lift 2) 6 - 67 (Lift 3)	Values represent the ratio of Carbon to Total Kjeldahl Nitrogen in the soil at the time of measurement for each lift. Ranges are shown for the eight treatment subplots. EPA Methods 415.1 (Modified) and 351.1 (Modified) were used.
Hydrocarbon degradation (mg kg month)	13 - 58 (Lift 1) No values were determined for Lifts 2 and 3.	Calculation of hydrocarbon degradation was based on the difference between the initial and final TCIC concentrations in the first lift and dividing that value by the amount of time required for treatment of soil in that cell in the first lift. The values shown represent the range measured for the eight treatment subplots.

TABLE 2 - OPERATING PARAMETERS

Parameter	Site Conditions	Measurement Procedure / Comment*
PAH degraders (cfu/gm)	1.0×10^5 - 5.0×10^7 (Lift 1) 7.0×10^2 - 4.5×10^6 (Lift 2) No values were determined for Lift 3.	"Replica Plating Method for Estimating Phenanthrene-Utilizing and Phenanthrene-Cometabolizing Microorganisms." Shiaris, M., Cooney, J., *Applied and Environmental Microbiology*, February 1983, Vol. 45, No. 2, pp. 706-710.
Total heterotrophs (cfu/gm)	7×10^5 - 9.9×10^7 (Lift 1) 6.3×10^5 - 6.6×10^7 (Lift 2) 7.0×10^4 - 1.1×10^7 (Lift 3)	"Agar-Plate Method for Total Microbial Count." F. Clark, *Methods of Soil Analysis*, Vol. 2, pp. 1460-1465.

*NA - not applicable. Measurement procedures are reported only for those parameters where different procedures are available.

TABLE 3 - DETAIL OF PROJECT COSTS

Cost Element	Cost (1998 $$)	
RA Capital Costs:		
Mobilization / Demobilization	$33,769	
Site Work / Preparation		
Clearing and grading	16,357 ($4,090/acre x 4 acres)	
Excavation (of soil)	7,655 ($0.95/yd^3 x 8,100 yd^3)	
Fencing	21,666	
Site restoration	8,445	
Equipment and Appurtenances		
Installation of clay layer	39,931 ($5.70/yd^3 x 7,000 yd^3)	
Shape retention pond	5,658	
Installation of subsurface drainage	48,216	
Construction of perimeter containment berms	11,305 ($5.65/ft x 2,000 ft)	
Installation of run-on drainage swales	5,928 ($1.98/ft x 3,000 ft)	
Installation of irrigation system	15,802	
Rental of tractor and tiller	10,653	
Non-Process Equipment		
Purchase of Level D personal protective equipment	2,052	
Total Capital Cost		**227,437**

APPENDIX A -- REMEDIAL ACTION REPORT
U CREOSOTE, LIVE OAK, FL (OU 2)

TABLE 3 - DETAIL OF PROJECT COSTS

Cost Element	Cost (1998 $$)	
RA Operating Costs (January 19 - July 24, 1998):		
Direct Labor		
Operation of tiller and sprayer	15,232	
Direct Materials (includes utility and fuel costs)		
Diesel fuel / fertilizer / inoculum seed cultures	3,251	
Spread contaminated soil	38,551 ($4.76/yd^3 x 8,100 yd^3)	
Equipment Overhead		
Maintenance / repair of site vehicles	4,292	
Analytical (related to technology performance, not compliance monitoring)		
Use of on-site laboratory	64,700	
Disposal of Residuals		
Highly contaminated sludge	3,299 (7,500 yd^3)	
Total RA Operating Costs		**129,325**
Total RA Cost		**356,762**
Projected O & M Cost (Sept. 1998 - Sept. 1994)		
Semiannual groundwater monitoring (five-year total)	21,000	
Total Projected O & M Costs		**21,000**

Appendix B - PRELIMINARY CLOSE OUT REPORTS

These Sample Preliminary Close Out Reports are based on an actual Superfund sites, but some information has been altered for illustrative purposes.

Content and format of actual Preliminary Close Out Reports prepared may vary from these samples due to considerations such as project lead and support roles, availability of information, and site-specific conditions.

For more about preparing a Preliminary Close Out Report, refer to OSWER Directive 9320.2-9A-P, "Close Out Procedures for National Priorities List Sites," EPA 540-R-98-016.

Preliminary Close Out Report

Waste-Be-Gone Disposal Corp. Site

Dumpsburg, Refuse County, Iowa

I. INTRODUCTION

This Preliminary Close Out Report documents that the U.S. Environmental Protection Agency (EPA) completed construction activities at the Waste-Be-Gone Disposal Corp. site in accordance with *Close Out Procedures for National Priorities List Sites* (OSWER Directive 9320.2-09A-P). EPA and the Iowa Department of Environmental Protection (State) conducted a pre-final inspection on June 2, 1999, and determined that the contractors have constructed the remedy in accordance with remedial design (RD) plans and specifications, and no further response is anticipated. EPA and the State have initiated the activities necessary to achieve performance standards and site completion.

II. SUMMARY OF SITE CONDITIONS

Background

The Waste-Be-Gone Disposal Corp. site is a 40-acre facility located in Dumpsburg, Refuse County, Iowa. The site is in a rural area in the south central portion of the State, near the Missouri border. Approximately 180 persons live and work within one mile of the site. The majority of this population lives to the east of the site and obtains drinking water from a public supply. The nearest residential area, a small subdivision of 28 persons, is approximately one-half mile to the east.

Waste-Be-Gone Disposal has operated the site as a disposal facility since 1965. Originally, the facility accepted only solid waste from residential sources. However, the facility accepted small quantities of pesticides and other organic wastes generated by the local agricultural industry from 1969 to 1971. Site records indicate that the majority of pesticides and organic wastes were disposed of in the southeastern portion of the site. Additionally, site operators occasionally sprayed waste oil on the dirt access roads as a dust suppressant.

Through initial investigations of the site, EPA determined that the following contaminants of concern were present in surface soil, with lower concentrations of these contaminants found in underlying soil areas:

- Pesticides (including aldrin, 0.35 milligrams per kilogram (mg/kg); chlordane, 70 mg/kg; dichlorodiphenyl trichloroethane (DDT), 211 mg/kg; and toxaphene, 712 mg/kg);
- Solvents (including acetone, 100 mg/kg, and toluene, 75 mg/kg); and
- Metals (including arsenic, 537 mg/kg).

These soil contaminants posed the greatest risk to human health through dermal contact. Concentrations of contaminants in the ground water beneath the site have been, and continue to be, below health-based levels, and therefore, do not pose a threat.

EPA proposed the site to the National Priorities List (NPL) on December 30, 1987 (47 FR 58476), and added it to the final list on September 8, 1988 (48 FR 40674).

Remedial Construction Activities

On June 28, 1991, the Regional Administrator signed a Record of Decision (ROD) documenting the remedial action (RA) for Operable Unit 1 (OU1), which included implementing institutional controls and installing ground water monitoring wells and performing sampling and analysis as an interim remedy. A second ROD on November 9,

1995, selected the following remedy to address OU2:

- Sampling and analysis of soil to define the estimated lateral and vertical extent of contamination;
- Excavating highly contaminated surface soil, primarily from the southeastern portion of the site, which exceeds health-based performance standards specified in the ROD;
- Treating the contaminated soil on-site using soil washing followed by solidification / stabilization technologies and consolidating treatment residuals in the main landfill area;
- Backfilling the excavated areas with clean impermeable fill, regrading, and revegetating;
- Placing a multi-media Resource Conservation and Recovery Act (RCRA) cap on the landfill with subsequent revegetation;
- Implementing site access and groundwater use restrictions; and
- Continuing groundwater monitoring.

Health-based performance standards specified in the ROD are: aldrin, 0.25 mg/kg; chlordane, 5 mg/kg; DDT, 10 mg/kg; toxaphene, 3 mg/kg; acetone, 10 mg/kg; toluene, 1 mg/kg; and arsenic, 50 mg/kg. The selected remedy eliminates the principal threat posed by the site by reducing the toxicity and mobility of the highly contaminated materials through treatment, thereby reducing the potential for exposure to pesticides, solvents, and metals detected in surficial soils.

Before beginning the RD, EPA sampled and analyzed surface and subsurface soil primarily in the southeastern portion of the site and along site access roads. The analytical results indicated that approximately 1,375 cubic yards of highly contaminated soil from the southeastern portion of the site and 800 cubic yards from the site access roads would require excavation, treatment, and consolidation within the main landfill area.

On August 21, 1996, EPA processed a work assignment to the Remedial Action Contractor (RAC) to develop a work plan for the RD. The RAC responded with the final work plan on September 4, 1996. The RAC completed the RD on February 10, 1997.

EPA awarded an RA contract on March 23, 1998. EPA and the State conducted remedial activities as planned, and no additional areas of contamination were identified. Next, EPA conducted a pre-final inspection on June 2, 1999, in conjunction with the State, and developed a list of outstanding contract items. The RA activities were performed according to design specifications set forth in the 1997 RD package, including:

- Sampling and analyzing soils to define the area of contamination;
- Constructing on-site treatment systems for soil washing followed by solidification / stabilization;
- Excavating and treating contaminated soils and backfilling the excavated area;
- Consolidating treatment residues in the landfill;
- Regrading, capping, and revegetating the landfill; and
- Constructing a chain-link fence around the perimeter of the site with a locked gate to restrict the access of unauthorized persons and equipment, and posting appropriate warning signs.

During pilot-scale treatability tests, EPA monitored air quality and took dust suppression measures to ensure that contaminated materials did not become an airborne threat. EPA also continued to monitor the groundwater. Contaminant concentrations analyzed within these media did not exceed health-based or regulatory standards.

Remaining activities to be completed by the EPA contractor include periodic adjustments and or modifications to the constructed remedy to maintain optimum performance, as well as demobilization of on-site facilities no longer required to conduct the remedial action. EPA and the State have not yet concurred on the operational and functional (O&F) period.

No activities using removal authority were conducted at this site.

The Refuse County Recreation Department is investigating the possibility of placing a sports complex on the site. The site appears suitable for this use; however, a source of funds for constructing and operating the complex has not been identified.

III. DEMONSTRATION OF CLEANUP ACTIVITY QUALITY ASSURANCE AND QUALITY CONTROL

EPA and the State reviewed the remedial action contract and construction for compliance with quality assurance and quality control (QA/QC) protocols. Construction activities at the site were determined to be consistent with the ROD, RD plans and specifications, and RD/RA statement of work issued to the RACs contractor.

The subcontractor for construction adhered to the approved construction quality control plan (CQCP). The construction quality assurance plan (CQAP) incorporated all EPA and State requirements. All confirmatory inspections, independent testing, audits, and evaluations of materials and workmanship were performed in accordance with the construction drawings, technical specification and CQAP. Construction quality assurance was performed by the RAC contractor firm, which maintained a constant on-site presence. The EPA RPM and State regulators visited the site approximately three times per month during construction activities to review construction progress and evaluate and review the results of QA/QC activities. Deviations or non-adherence to QA/QC protocols, drawings, or specifications were properly documented and resolved.

The Quality Assurance Project Plan (QAPP) incorporated all EPA and State QA/QC procedures and protocol. EPA analytical methods were used for all confirmation and monitoring samples during RA activities. Procedures and protocol followed for soil sample analysis during the RA were conducted using a laboratory under contract to the Contract Laboratory Program (CLP). The air sample analysis followed the EPA protocols in the *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*. EPA and the State determined that analytical results are accurate to the degree need to assure satisfactory execution of the RA.

IV. ACTIVITIES AND SCHEDULE FOR SITE COMPLETION

The following activities remain for the Waste-Be-Gone Disposal site:

Task	Estimated Completion	Responsible Organization
1) Approve O&M Plan	06/30/00	EPA/State
2) Complete Final Inspection	06/02/01	EPA/State
3) Determine Remedy O&F	06/02/01	EPA/State
4) Approve RA Report	08/02/01	EPA/State
5) Five-Year Review	03/30/03	EPA
6) Approve Final Close Out Report	04/01/03	EPA
7) Deletion From NPL	09/30/03	EPA

V. SUMMARY OF REMEDIATION COSTS

The original cost estimate to implement the remedial action described in the ROD for operable unit 2 (OU2) was $14 million (net present worth). Costs were estimated for an anticipated 30-year O & M time period and a discount rate of 7% was used in the ROD estimate. More detailed cost estimate documentation can be found in the Feasibility Study for OU2.

The bid price for the project was $15 million. This was due to the need for additional aquifer and plume data to optimize the design of the extraction well system. An additional 30 monitoring wells at 19 locations were needed because the RI data was inadequate to design the selected remedial action.

At the time that this Preliminary Closeout Report was prepared, all of the project costs have not yet been reported for OU2. The ROD estimate for the capital costs of OU1 was $3 million. The final RA cost for OU1 is $3.6 million (more detailed RA cost information can be found in the RA report for OU1). For OU2, approximately $15 million has been expended to date for RA construction, with another $1 million anticipated due to lagging costs and shakedown period refinements. Final RA costs for OU2 will be documented in the RA report. RA cost growth from the bid estimate of $15 million to the anticipated final RA costs of $19 million is due to change orders associated with an unanticipated increase in the total volume of contaminated soil requirement excavation and treatment. Annual O & M expenditures have increased from the $400,000 originally estimated in the ROD to $500,000 due to an increase in the number of monitoring wells that need to be sampled.

VI. FIVE-YEAR REVIEW

Hazardous substances will remain at the site above levels that allow unlimited use and unrestricted exposure after the completion of the remedial action. Pursuant to CERCLA section 121(c) and as provided in the current guidance on Five Year Reviews: OSWER Directive 9355.7-02, *Structure and Components of Five-Year Reviews*, May 23, 1991, OSWER Directive 9355.702A, *Supplemental Five-Year Review Guidance*, July 26, 1994, and the *Second Supplemental Five-Year Review Guidance*, December 21, 1995, EPA must conduct a statutory five-year review. The Five-Year Review Report will be completed prior to March 2003 (five years after RA onsite mobilization).

(Signature) *(Date)*

Director, Waste Management Division Date

Preliminary Close Out Report

Miller & Metal Smelting Corp. Site

Meltstown, Slag County, Colorado

I. INTRODUCTION

This Preliminary Close Out Report documents that the U.S. Environmental Protection Agency (EPA) completed all construction activities for the Miller's Metal Smelting Corp. site in accordance with *Close Out Procedures for National Priorities List Sites* (OSWER Directive 9320.2-09A-P). EPA and the Colorado Department of Health (State) conducted a pre-final inspection on May 16, 1995, and determined that the potentially responsible parties (PRPs) constructed the remedy in accordance with remedial design (RD) plans and specifications. The PRPs have initiated activities necessary to achieve performance standards and site completion.

II. SUMMARY OF SITE CONDITIONS

Background

The Miller's Metal Smelting Corp. site is a 75-acre lead smelter in Meltstown, Slag County, Colorado. This site is just south of Midcounty Road and east of Evergreen Street. Approximately 230 persons live and work within a one-mile radius of the site. The majority of this population lives to the west of the site near Meltstown, and most obtain drinking water from a public supply. Six private wells are located within one mile of the site.

Miller's Metal Smelting acquired the facility in 1956 from Carpenter Refining Corp. and operated it until 1981. The facility had served as a primary lead smelter since the turn of the century. Throughout this time, ore typically was brought to the smelter via rail cars and stored in several on-site facilities. Waste generated from the smelting process included: a hot speiss from the dross plant which was pumped into the unlined speiss pond, process waste water that was sent to Simpson Pond, and fugitive air emissions from the smelter stack.

Contaminants of concern at the Miller's Metal Smelting site include arsenic, cadmium, and lead. The site posed potential threats to human health and the environment through dermal contact or ingestion of contaminated soil, sediment, groundwater, and surface water, as well as inhalation of airborne contaminated-particulate matter.

EPA proposed the site to the National Priorities List (NPL) on September 8, 1988 (53 FR 40674), and added it to the final list on September 21, 1989 (54 FR 37070).

Remedial Construction Activities

On December 31, 1992, the Regional Administrator signed a Record of Decision (ROD) selecting the following remedy:

- Replacing the process ponds with steel tanks; installing secondary containment for the tanks; and treating the process waste water via co-precipitation prior to storage in the steel tanks;
- Excavating and disposing off-site approximately 150,000 cubic yards of contaminated soil and sediments, followed by sampling;
- Pumping and treating contaminated groundwater via co-precipitation for approximately 10 years, with groundwater monitoring; and
- Conducting surface water monitoring for 10 years after completion of the remedial action (RA).

The ROD specified cleanup levels for soils and sediments, wastewater, and groundwater. For soils and sediments contaminated with arsenic, cadmium, and lead, the ROD specified excavation to a depth of 18 inches or until the 10^{-6} risk level is achieved. The cleanup levels for wastewater, containing arsenic, cadmium, and lead, were 0.02

milligrams per liter (mg l) for arsenic; 0.01 mg l for cadmium; and 0.004 mg l for lead. Lastly, the ROD specified cleanup levels for groundwater, reducing levels of arsenic, cadmium, and lead to maximum contaminant levels of 0.05 mg l, 0.01 mg l, and 0.05 mg l, respectively.

In a consent decree signed with EPA, the PRPs agreed to perform the remedial design remedial action (RD RA). The RD was conducted in conformance with the approved ROD. The RA was initiated on November 2, 1993, when the PRP awarded the RA contract. The contractor conducted remedial activities as planned, and no additional areas of contamination were identified. EPA and the State conducted a pre-final inspection on May 16, 1995, which included a description and schedule for correcting minor construction contract items by the contractor. These "punch" list items included re-establishing the turf around the pumphouse; installation of fire extinguishers, and removal of the construction trailer. EPA and the State determined that the following RA activities were constructed and or completed according to the ROD design specifications:

- Removing and treating process waste waters via co-precipitation, as well as installing storage tanks and containment systems;
- Excavating and disposing off-site contaminated soil and sediments, followed by sampling to characterize the excavated area;
- Backfilling the excavated area with clean soil; and
- Pumping and treatment of contaminated groundwater via co-precipitation.

The contractor began pumping and treating the contaminated groundwater via co-precipitation and will continue this process for an estimated 10 years. Remaining activities to be completed by the contractor include any periodic adjustments and / or modifications to the constructed remedy to maintain optimum performance. EPA and the State have approved the operations and maintenance (O&M) plan.

No activities were conducted using removal authority at this site.

No reuse is currently planned for the site.

III. DEMONSTRATION OF CLEANUP ACTIVITY QUALITY ASSURANCE AND QUALITY CONTROL

EPA and the State reviewed the remedial action contract and construction for compliance with quality assurance and quality control (QA QC) protocols. Construction activities at the site were determined to be consistent with the ROD, RD plans and specifications, and RD/RA statement of work in the consent decree.

The PRP construction contractor adhered to the approved construction quality control plan (CQCP). The construction quality assurance plan (CQAP) incorporated all EPA and State requirements. All confirmatory inspections, independent testing, audits, and evaluations of materials and workmanship were performed in accordance with the construction drawings, technical specification and CQAP. Construction quality assurance was performed by an independent firm retained by the PRP. The EPA RPM and State regulators visited the site approximately twice per month during construction activities to review construction progress and evaluate and review the results of QA/QC activities. Deviations or non-adherence to QA/QC protocols, drawings, or specifications were properly documented and resolved.

The Quality Assurance Project Plan (QAPP) incorporated all EPA and State QA/QC procedures and protocol. EPA analytical methods were used for all confirmation and monitoring samples during RA activities. Sampling of soil, sediments, and water followed the EPA protocol *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods*. EPA and the State determined that analytical results are accurate to the degree need to assure satisfactory execution of the RA.

IV. ACTIVITIES AND SCHEDULE FOR SITE COMPLETION

The following activities will be completed according to the following schedule:

Task	Estimated Completion	Responsible Organization
Complete Punch List Items	09/15/95	PRP
Complete Final Inspection	01/15/97	EPA State
Determine Remedy O&F	01/15/97	EPA State PRPs
Approve Interim RA Report	03/15/97	EPA State PRPs
Five-Year Review	05/30/00	PRP
Complete Surface Water Monitoring	10/01/05	PRP
2nd Five-Year Review	05/30/05	PRP
Complete Ground Water Pump & Treat	12/31/05	PRP
Pre-Certification Inspection	01/05/06	EPA/State/PRP
Approve Final RA Report	01/31/06	EPA
Approve Final Close Out Report	03/30/06	EPA
Delete Site	06/30/06	EPA

V. SUMMARY OF REMEDIATION COSTS

The original cost estimate to implement the remedial action described in the ROD was $17.5 million. The PRPs reported that the construction contract award amount was $20.3 million and the estimated final construction cost is $22.8 million. The increase in cost from ROD to RA award is attributed to an improved definition of the scope of the project in going from the RI/FS to the final design of the project. The cost growth during construction was caused mainly by an increase in the estimated quantity of contaminated soil that was excavated and shipped off-site for disposal.

The ROD estimate for annual maintenance costs was $650,000. The actual annual cost of maintenance is reported by the PRPs to be approximately $720,000, well within the accuracy of the ROD estimate. EPA's oversight cost for the construction was $340,000, and $27,000 a year for the oversight of annual maintenance activities.

VI. FIVE-YEAR REVIEW

Upon completion of this remedy, no hazardous substances will remain on-site above levels that prevent unlimited use an unrestricted exposure. However, because this remedy will require greater than five years to achieve these levels, pursuant to CERCLA section 121(c) and as provided in the current guidance on Five Year Reviews [OSWER Directive 9355.7-02, *Structure an components of Five-Year Reviews*, May 23, 1991, OSWER Directive 9355.702A, *Supplemental Five-Year Review Guidance*, July 26, 1994, and the *Second Supplemental Five-Year Review Guidance*, December 21, 1995], EPA must conduct a policy five-year review. Therefore, the Five-Year review will be completed prior to May 2000 (five years after construction completion date).

Director, Waste Management Division

Date

Appendix C - FINAL CLOSE OUT REPORT

This Sample Final Close Out Report was based on an actual Superfund site, but some information has been altered for illustrative purposes.

Content and format of actual Final Close Out Reports prepared may vary from these samples due to considerations such as project lead and support roles, availability of information, and site-specific conditions

For more about preparing a Final Close Out Report, refer to OSWER Directive 9320.2-9A-P, "Close Out Procedures for National Priorities List Sites," EPA 540-R-98-016.

Final Close Out Report

Metal Waste Products Inc. Site

Wasteville, Hazard County, California

I. INTRODUCTION

This Final Close Out Report documents that the U.S. Environmental Protection Agency (EPA) completed all response actions for the Metal Waste Products, Inc. site in accordance with *Close Out Procedures for National Priorities List Sites* (OSWER Directive 9320.2-09A-P).

II. SUMMARY OF SITE CONDITIONS

Background

The Metal Waste Products, Inc. site covers 9 acres in Wasteville, Hazard County, California. The site is situated in an industrial area of town, approximately 2,000 feet downstream from the confluence of the American and Sacramento Rivers. Approximately 400 feet northwest and upstream of the site, is the surface water intake supplying water for up to 145,000 people in Wasteville. Concern for impact on this water supply was the primary reason the site was proposed for the National Priorities List (NPL) on December 30, 1982.

Between 1950 and 1965, the company salvaged all grades and types of metal, including railroad cars, army tanks, batteries, and some electrical transformers. The total quantities of hazardous or non-hazardous materials handled or disposed of at this site are unknown. In 1965, the State of California purchased the site as easement for the pending construction of Interstate 5 (I-5). By 1967, I-5 and the realigned Main Street covered 6.7 acres of the original 9-acre site.

Remedial Investigation / Feasibility Study

Between 1981, when the site first came to the attention of the California Department of Health Services (DHS), and 1985, the 2.3 acres not covered by roadway structures and adjacent areas were sampled seven times. EPA performed a remedial investigation (RI) between June 1983 and June 1984. Lead, copper, and zinc were detected in the top foot of soil throughout the 2.3 acres at levels significantly higher than State criteria. Specifically, the maximum concentrations detected in the 27 surface samples from the 2.3 acres were 13,600 parts per million (ppm) lead, 3,450 ppm copper, and 19,700 ppm zinc. Of 48 subsurface samples from the 2.3-acre area, contamination was detected at only four locations at depths ranging from 3 to 10 feet below ground level. The final RI report summarized all site analyses results.

On February 14, 1985, EPA released a draft of the Feasibility Study (FS) for a three-week public comment period. The FS provided an in-depth summary and discussion of site sampling activities, a public health assessment, and an analysis of remedial alternatives. The FS concluded that no action at the site could result in a potential health threat to the public through dermal contact with soil contaminated with lead. The FS then provided a detailed analysis of capping, excavation and off-site removal, encapsulation, and no action remedial alternatives. No activities using removal authority were conducted at this site.

ROD Findings

On May 9, 1985, consistent with the Remedy Delegation Report of March 8, 1985, the Regional Administrator approved a Record of Decision (ROD), which selected excavation and off-site disposal of all soil contaminated with lead above background levels (200 ppm). This ROD was amended on October 4, 1985, based on recent guidance allowing clean site closure action levels to exceed background levels where EPA can demonstrate that the residual contamination would pose no threat to human health or the environment. Based on cleanup objectives at other

Federal and State hazardous waste sites, as well as recommendations from the U.S. Centers for Disease Control, the 500-ppm lead cleanup level was determined to be protective of health and the environment at the site.

Design Criteria

On June 10, 1985, EPA issued an Interagency Agreement for $72,500 to the USACE to perform the remedial design. The Fund-lead RD was completed on August 28, 1985. The project was also a Fund-lead construction.

Between April 1985 and September 1985, EPA and the State negotiated a State Superfund Contract (SSC). The SSC was reviewed and revised five times before a final contract was signed on April 1, 1986. The SSC provided that the State pay 10% of the remedial action costs and assume responsibility for all of the operation and maintenance (O&M) requirements, as required by CERCLA.

Between October 1985 and March 1986, USACE held three open bid periods on the remedial action construction contract. The contract award was delayed primarily because of difficulties in implementing the previously untested EPA Off-Site Disposal Policy (*Procedures for Planning and Implementing Off-Site Response Actions*, EPA Memorandum, May 6, 1985). USACE awarded a contract on July 17, 1986, to U.S. Cleanup Contractors. The contractor identified an off-site disposal facility in compliance with the Superfund off-site policy.

Remedial Construction Activities

On August 18, 1986, EPA held a public meeting and gave a presentation to the City of Wasteville Toxics Commission on pending cleanup activities. EPA issued a Notice to Proceed to the contractor on August 20, 1986. After thorough review, the final work plan was approved October 15, 1986. On-site activities (specifically, background air monitoring and site mobilization) began on October 5, 1986. On November 20, 1986, EPA held a well-attended on-site press conference.

Excavation of contaminated soil began October 5, 1986, and the first off-site shipment of contaminated soil occurred December 2, 1986. During the on-site stockpiling of material in October and November of 1986, the contractor discovered the first of many unanticipated subsurface objects. These items included concrete foundations and footings, gas cylinders, drums, and sewer lines.

The contractor sampled all material discovered to identify any hazardous materials, except for concrete which was taken directly to the approved disposal facility. Any material found to contain lead at levels greater than 500 ppm or any RCRA priority pollutant at levels higher than *de minimus* levels was also removed to the approved facility. In all, the contractor removed approximately 11,000 tons of contaminated material, over twice the amount originally estimated in the ROD. Following the removal of all contaminated soil and debris, the site was covered with three feet of clean fill material, regraded to ensure proper drainage, and hydro seeded to prevent soil erosion.

The contractor completed remedial construction in early May 1987 and EPA, USACE, and DHS held a pre-final inspection on May 27, 1987. Establishing vegetation required an additional 60 days before the construction contract could be termed completed. On July 26, 1987, USACE conducted the final inspection in conjunction with State and EPA representatives and determined that the remedial action had been successfully executed.

On March 30, 1988, USACE submitted a Remedial Action Report signifying successful completion of construction activities.

Community Relations Activities

The water supply was the object of considerable public interest in Wasteville. As a result, the Region's community relations staff conducted an active campaign to ensure that the residents were well-informed about the activities at the site. Community relations activities included: public meetings, an on-site press conference, routine publication of progress fact sheets, and a final close-out meeting and site tour when site construction activities were completed.

III. DEMONSTRATION OF CLEANUP ACTIVITY QUALITY ASSURANCE AND QUALITY CONTROL

EPA, the USACE, and the State reviewed the remedial action contract and construction for compliance with quality assurance and quality control (QA/QC) protocols. Construction activities at the site were determined to be consistent with the ROD and the RD plans and specifications.

The construction contractor adhered to the approved construction quality control plan (CQCP). The construction quality assurance plan (CQAP) incorporated all USACE and EPA requirements. All confirmatory inspections, independent testing, audits, and evaluations of materials and workmanship were performed in accordance with the construction drawings, technical specification and CQAP. Construction quality assurance was performed by the USACE. The EPA RPM and State regulators visited the site approximately three times per month during construction activities to review construction progress and evaluate and review the results of QA/QC activities. Deviations or non-adherence to QA/QC protocols, drawings, or specifications were properly documented and resolved.

All procedures and protocol followed for groundwater, soil and air sample analysis during the remedial action are well documented. Only EPA analytical methods, or where no EPA methods existed, other Federally approved methods were used (such as National Institute of Occupational Safety and Health methods for the analysis of airborne contaminants). The soil and groundwater samples were analyzed by a laboratory under contract to the Contract Laboratory Program (CLP). The EPA Field Investigation Team (FIT) and the EPA Environmental Monitoring Systems Laboratory sampled and analyzed the air samples. EPA, USACE, and the State determined that analytical results are accurate to the degree need to assure satisfactory execution of the RA.

IV. MONITORING RESULTS

The contract for the remedial action detailed a rigorous sampling and analysis program for the remedial action. Specifically, sampling was required and implemented to: 1) protect the off-site public, 2) protect on-site workers, and 3) confirm compliance with RA objectives. The sampling program included:

- Daily perimeter air monitoring for total particulates, respirable particulates, total lead;
- Daily personnel air sampling of exclusion-zone workers for copper, lead, and zinc;
- Random instantaneous on-site and perimeter air sampling for total particulates;
- Confirmatory soil sample(s) for all site contaminants, wherever additional contamination was suspected or known to occur;
- Complete sampling of backfill soil for all site contaminants; and
- Ground-water samples for all site contaminants.

The contractor excavated and removed additional soil to the approved disposal facility wherever lead was detected at a level above 500 ppm or any site contaminant was detected at a level higher than acceptable risk standards. Overall, contaminated soil was excavated to depths greater than one foot from over 50 percent of the 2.3-acre site, resulting in the removal of 11,000 cubic yards of material. Subsequent sampling confirmed that this quantity was sufficient to ensure that all contamination was removed from the site, and that the cleanup level for lead of 500 ppm specified in the ROD was achieved.

The Final Technical Report and Contractor Quality Control Summary Report contains documentation of the complete results and accuracy of the confirmatory sampling program.

V. SUMMARY OF OPERATION AND MAINTENANCE

The cleanup of the site complies with the "clean closure" requirements, consistent with the Resource Conservation and Recovery Act of 1976, as amended, 40 CFR section 264.111. Site operation and maintenance (O&M) activities to be performed include annual inspections of the site to ensure erosion control measures are effective, routine mowing, and maintenance of the perimeter fence. Per the SSC, the State has assumed all responsibility for O&M.

VI. SUMMARY OF REMEDIATION COSTS

The original cost estimate to implement the remedial action described in the amended ROD (10/4 85) was $2 million. The construction contract award amount was $1.95 million. Due to the 21 above noted change orders, the final remedial action cost totaled $3,991,315. This cost increase is attributable to the discovery of many unanticipated subsurface objects. A breakdown of the final costs can be found in the Remedial Action Report for this project. The ROD estimated annual maintenance costs of $10,000, as compared with State actual costs of $13,000.

VII. PROTECTIVENESS

This site meets all the site completion requirements as specified in OSWER Directive 9320.2-09-A-P, *Close Out Procedures for National Priorities List Sites*. Specifically, confirmatory sampling verifies that the site has achieved the ROD cleanup objective, that all lead has been removed to levels below 500 ppm, and that all cleanup actions specified in the ROD have been implemented. Furthermore, EPA has removed all other contamination detected to acceptable risk levels. Confirmatory ground-water sampling and backfilling the site with clean soil provide further assurance that the site no longer poses any threats to human health or the environment. The only remaining activity to be performed is O&M that the State has guaranteed. A bibliography of all reports relevant to the completion of this site under the Superfund program is attached.

VIII. FIVE-YEAR REVIEW

As a matter of policy, EPA has decided to conduct a Five-Year review at this site. The review will be conducted pursuant to CERCLA 121 (c) and as provided in the current guidance on Five Year Reviews: OSWER Directive 9355.7-02, *Structure and Components of Five-Year Reviews*, May 23, 1991, OSWER Directive 9355.702A, *Supplemental Five-Year Review Guidance*, July 26, 1994, and the *Second Supplemental Five-Year Review Guidance*, December 21, 1995. The Five-Year Review Report will be completed by October 1996.

Approved By:

_____

Regional Administator

IX. BIBLIOGRAPHY

[Include complete citations of all documents relevant to the cleanup of the site.]

Appendix D - NOTICES OF INTENT TO DELETE

These Notice of Intent to Delete Samples are based on an actual Superfund sites, but some information has been altered for illustrative purposes.

Content and format of an actual Notice of Intent to Delete may vary from these samples due to considerations such as project lead and support roles, availability of information, and site-specific conditions.

For more about preparing a Notice of Intent to Delete, refer to OSWER Directive 9320.2-9A-P, "Close Out Procedures for National Priorities List Sites," EPA 540-R-98-016.

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

National Oil and Hazardous Substances Pollution Contingency Plan: National Priorities List

AGENCY: Environmental Protection Agency.

ACTION: Notice of Intent to Delete the Aztec Mountain Mine from the National Priorities List.

SUMMARY: The Environmental Protection Agency (EPA) Region 10 announces the intent to delete the Aztec Mountain Mine site (``the site") from the National Priorities List (NPL) and requests public comment on this proposed action. The NPL constitutes Appendix B of 40 CFR part 300 which is the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), which EPA promulgated pursuant to section 105 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended. EPA and the State of Washington Department of Ecology (Ecology) have determined that the remedial action for the site has been successfully executed.

DATE: Comments concerning the proposed deletion of this Site from the NPL may be submitted on or before (INSERT DATE 30 DAYS FROM PUBLICATION IN THE FEDERAL REGISTER).

ADDRESSES: Comments may be mailed to: [RPM Name], U.S. Environmental Protection Agency, Region ___, [Street Address], [Mailstop], [City, State Zip Code]

Comprehensive information on this site is available through the Region 10 public docket which is available for viewing by appointment only. Appointments for copies of the background information from the Regional public docket should be directed to the EPA Region 10 Docket office at the following address: SUPERFUND Records Center U.S. Environmental Protection Agency, Region 10, [Street Address], [Mailstop], [City, State Zip Code]

The deletion docket is also available for viewing at the following location:

FOR FURTHER INFORMATION CONTACT: [RPM Name], U.S. Environmental Protection Agency, [Street Address], [Mailstop], [City, State Zip Code], [(XXX) XXX-XXXX or 1-800-XXX-XXXX.]

SUPPLEMENTARY INFORMATION:

Table of Contents

I. Introduction

II. NPL Deletion Criteria

III. Deletion Procedures

IV. Basis of Intended Site Deletion

I. Introduction

The U.S. Environmental Protection Agency (EPA) Region 10 announces its intent to delete the Aztec Mountain Mine site in [County, State], from the National Priorities List (NPL) and requests public comment on this proposed action. The NPL constitutes Appendix B of 40 CFR part 300 which is the Oil and Hazardous Substances Pollution Contingency Plan (NCP), which EPA promulgated pursuant to section 105 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended. EPA identifies sites that appear to present a significant risk to public health, welfare, or the environment and maintains the NPL as the list of these sites. EPA and the State of Washington Department of Ecology (Ecology) have determined that the remedial action

for the site has been successfully executed.

EPA will accept comments on the proposal to delete this site for thirty (30) days after publication of this document in Federal Register.

Section II of this document explains the criteria for deleting sites from the NPL. Section III discusses the procedures EPA is using for this action. Section IV discusses the Aztec Mountain Mine site and explains how the site meets the deletion criteria.

II. NPL Deletion Criteria

Section 300.425(e)(1) of the NCP provides that releases may be deleted from, or recategorized on the NPL where no further response is appropriate. In making a determination to delete a release from the NPL, EPA shall consider, in consultation with the state, whether any of the following criteria have been met:

(i) Responsible parties or other persons have implemented all appropriate response actions required; or

(ii) All appropriate Fund-financed responses under CERCLA have been implemented, and no further response action by responsible parties is appropriate; or

(iii) The Remedial Investigation has shown that the release poses no significant threat to public health or the environment and, therefore, remedial measures are not appropriate.

Even if a site is deleted from the NPL, where hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and restricted exposure, EPA's policy is that a subsequent review of the site will be conducted at least every five years after the initiation of the remedial action at the site to ensure that the site remains protective of public health and the environment. If new information becomes available which indicates a need for further action, EPA may initiate additional remedial actions. Whenever there is a significant release from a deleted site from the NPL, the site may be restored to the NPL without application of the Hazard Ranking System.

In the case of this site, the selected remedy is protective of human health and the environment. Consistent with the State Superfund Contract, Ecology has agreed to take over operation and maintenance of the site and conduct an annual inspection. EPA has conducted the first five-year review of the final remedy, and will also perform future five-year reviews.

III. Deletion Procedures

The following procedures were used for the intended deletion of this site: (1) All appropriate response under CERCLA has been implemented and no further action by EPA is appropriate; (2) [State] has concurred with the proposed deletion decision; (3) a notice has been published in the local newspapers and has been distributed to appropriate federal, state, and local officials and other interested parties announcing the commencement of a 30-day public comment period on EPA's Notice of Intent to Delete; and (4) all relevant documents have been made available in the local site information repositories.

Deletion of the site from the NPL does not itself create, alter, or revoke any individual's rights or obligations. The NPL is designed primarily for informational purposes and to assist Agency management. As mentioned in section II of this notice, Sec. 300.425(e)(3) of the NCP states that the deletion of a site from the NPL does not preclude eligibility for future response actions.

For deletion of this site, EPA's Regional Office will accept and evaluate public comments on EPA's Notice of Intent to Delete before making a final decision to delete. If necessary, the Agency will prepare a Responsiveness Summary to address any significant public comments received.

A deletion occurs when the Regional Administrator places a final notice in the Federal Register. Generally, the NPL will reflect deletions in the final update following the Notice. Public notices and copies of the Responsiveness Summary will be made available to local residents by the Regional Office.

IV. Basis of Intended Site Deletion

The following site summary provides the Agency's rationale for the proposal to delete this site from the NPL.

Site Background and History

Aztec Mountain Mine is an abandoned heap-leach mining operation located approximately six air miles northwest of Greenville, in Western County, Washington. The site consists of five acres of range land on a 358-acre tract of privately owned land. The site was placed on the NPL in 1984 due to concerns about a cyanide-contaminated leachate pond, saturated mine tailings, and the potential for arsenic and cyanide contamination of the regional ground water aquifer.

The risk assessment identified arsenic and cyanide as the primary contaminants of concern. The Remedial Investigation (RI) identified and evaluated three potential sources of contaminants at the site: the heap leach pile, the unprocessed rock, and the mine drainage water. Potential exposure pathways for contaminants were identified as: On- site soils, on-site surface water, on-site ground water in a shallow aquifer, and off-site ground water in the region. During the RI, the highest arsenic levels found were in the mined material (1080 mg/kg) and in the water from a stock water tank (95 up/l). Both arsenic and cyanide were also found in the perched shallow aquifer just at the edge of the heap leach pile.

The Feasibility Study screened twenty-three various methods of cleaning up the site. From this list, eight alternatives were developed and evaluated against criteria listed in the NCP. Alternatives ranged from capping on-site to treatment and off-site disposal.

Response Actions

The Record of Decision (ROD) for Aztec Mountain Mine was signed on March 27, 1990, and included a number of construction elements to implement the Remedial Action. In October 1994, EPA completed an Explanation of Significant Differences (ESD) to document changes in the Remedial Action due to unforeseen conditions encountered at the site during implementation of the selected remedy. The remedial action at the site ultimately included:

--Consolidating and contouring contaminated mine waste overburden and tailings,

--Covering and capping the site with a soil and clay cap,

--Fencing the site to protect the cap and allow seeded grass cover to develop,

--Closure of the mine entrance and diversion of the mine drainage so that it flows away from the site, and

--Deed restrictions on property to protect the cap.

Construction was completed during 1992 and the deed restrictions were finally obtained in December 1996.

The five-year review inspection occurred on May 27, 1997, and determined that the remedial objectives have been achieved. The constructed remedy is performing as designed and is controlling the risks to human health and the environment as specified in the ROD and ESD. The cap was in excellent shape with no evidence of subsidence, erosion, or animal burrows. The grass cover is well established and provides thorough coverage of the cap; minimal weeds and woody vegetation were growing on the cap. The mine entrance and mine vent were both closed and covered with rocks.

Cleanup Standards

The remedial action cleanup activities at the Aztec Mountain Mine site are consistent with the objectives of the NCP and will provide protection to human health and the environment. The cleanup standards for the heap leach pile and mine dump materials and the surrounding soils are 200 mg/kg for arsenic and 95 mg/kg for total cyanide. According to the data obtained during the construction work, the cyanide in the soils is below detection (0.5 mg/kg), and the concentrations of arsenic that remain in the areas that were cleaned up are less than 100 mg/kg. Risks at the site have been reduced below the Hazard Index of 1.0 or health based levels; and for arsenic, a human carcinogen, the cancer risk factor has been reduced below one in ten thousand.

The major source of contaminants identified in the ROD, the rock material from the mining operations (heap and mine dump), has been addressed. The mine drainage was reevaluated in the Explanation of Significant Differences and it was determined that the mine drainage did not pose an ecological threat. According to the risk assessment and amended risk assessment, the inhalation and ingestion of the contaminated soils were the major routes of exposure. The arsenic-laden waste rock from the mine was contained and capped. The cleanup also reduced the impacts to the ground water by diverting the run-on water away from the capped mine waste and by limiting potential leachate generation.

Operation and Maintenance

The site is designed to require very little maintenance. The area is remote and the semi-arid climatic conditions suggest that only minimal maintenance is expected. The mined rock material under the cover is not expected to settle which is often the major cause of cap disturbance. The rainfall is low with an annual average precipitation of 11 inches/year which is primarily as snow and spring rain. It is expected that Ecology personnel, per the State Superfund Contract, will be able to provide the annual maintenance with a minimal amount of work.

Five-Year Review

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund) requires a five-year review of all sites with hazardous substances remaining above the health-based levels for unrestricted use of the site. Since the cleanup of the Aztec Mountain Mine site utilized containment of the hazardous materials as the method to reduce the risk, the five-year review process will be used to insure that the cap is still intact and blocking exposure pathways for human health and the environment. As indicated above, EPA has conducted the first statutory five-year review and has determined that the remedy selected for Aztec Mountain Mine remains protective of human health and the environment. For future five-year reviews, EPA will review Ecology's annual reports on the operation and maintenance at the site and perform a five-year review inspection. EPA plans to complete the next Five-Year Review prior to May 27, 2002.

Community Involvement

EPA published its Community Relations Plan in December 1987, after interviews with local residents and officials. An information repository was established at the County Courthouse and all of the documents used to make the decision were placed there before the final Record of Decision was signed. All other reports and fact sheets were sent to the repository as they were completed. Those individuals on the mailing list were informed by fact sheet prior to construction activities on-site. No public meetings have been requested thus far.

Applicable Deletion Criteria

One of the three criteria for site deletion specifies that EPA may delete a site from the NPL if "all appropriate Fund-financed response under CERCLA has been implemented, and no further response action by responsible parties is appropriate." 40 CFR 300.425(e)(1)(ii). EPA, with the concurrence of the State of Washington through the Department of Ecology, believes that this criterion for deletion has been met. Subsequently, EPA is proposing deletion of this site from the NPL. Documents supporting this action are available from the docket.

State Concurrence

In a letter dated June 17, 1997, the Washington Department of Ecology concurs with the proposed deletion of the Aztec Mountain Mine Superfund site from the NPL.

Dated: July 17, 1997.

John Doe, Acting Regional Administrator, U.S. EPA Region 10.

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

National Oil and Hazardous Substances Pollution Contingency Plan National Priorities List

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of intent to delete the SF Industries Landfill Site from the National Priorities List

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SUMMARY: The Environmental Protection Agency (EPA) Region II announces its intent to delete the SF Industries Landfill Site (Site) from the National Priorities List (NPL) and requests public comment on this action. The NPL constitutes Appendix B of 40 CFR part 300 which is the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), which EPA promulgated pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, 42 U.S.C 9601 et seq. EPA and the New Jersey Department of Environmental Protection (NJDEP) have determined that the Site poses no significant threat to public health or the environment and, therefore, further remedial measures pursuant to CERCLA are not appropriate.

DATES: Comments concerning the proposed deletion of this Site for the NPL may be submitted on or before [Insert date 30 days from publication in the Federal Register.]

ADDRESSES: Comments may be mailed to: [RPM Name], Remedial Project Manager, U.S. Environmental Protection Agency, Region 2, [Mailcode] [Street, City, State Zip Code]

The deletion docket and other comprehensive information on this Site is available for viewing at the SF Industries Landfill Site information repository at the following location: Town of Terraville Municipal Building, [Street Address, City, State Zip Code] (XXX) XXX-XXXX.

FOR FURTHER INFORMATION CONTACT: [RPM Name], Remedial Project Manager, U.S. Environmental Protection Agency, Region [___], [Mailcode] [Street, City, State Zip Code], (XXX) XXX-XXXX.

SUPPLEMENTARY INFORMATION:

Table of Contents

I. Introduction

II. NPL Deletion Criteria

III. Deletion Procedures

IV. Basis for Intended Site Deletion

I. Introduction

EPA Region II announces its intent to delete the SF Industries Landfill Site, which is located in Terraville, Terra County New Jersey, from the NPL, which constitutes Appendix B of the NCP, 40 CFR part 300, and requests comments on this deletion. EPA identifies sites that appear to present a significant risk to public health, welfare, or the environment and maintains the NPL as the list of these sites. As described in Sec. 300.425(e)(3) of the NCP, sites deleted from the NPL remain eligible for remedial actions in the unlikely event that conditions at the site warrant such action.

EPA will accept comments on the proposal to delete this Site for thirty (30) days after publication of this document in the Federal Register.

Section II of this notice explains the criteria for deleting sites from the NPL. Section III discusses the procedures that EPA is using for this action. Section IV discusses the Site and explains how the Site meets the deletion criteria.

II. NPL Deletion Criteria

Section 300.425(e) of the NCP provides that sites may be deleted from the NPL where no further response is appropriate. In making a determination to delete a site from the NPL, EPA in consultation with NJDEP, shall consider whether any of the following criteria have been met:

(i) Responsible parties or other parties have implemented all appropriate response actions required; or

(ii) All appropriate responses under CERCLA have been implemented, and no further action by responsible parties is appropriate; or

(iii) The remedial investigation has shown that the release of hazardous substances poses no significant threat to public health or the environment and, therefore, remedial measures are not appropriate.

Even when a site is deleted from the NPL, where hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and restricted exposure, EPA is required, by statute or policy, to conduct a subsequent review of the site at least every five years after the initiation of the remedial action at the site to ensure that the site remains protective of public health and the environment. If new information becomes available which indicates a need for further action, EPA may initiate additional remedial actions. Whenever there is a significant release from a deleted site from the NPL, the site may be restored to the NPL without application of the Hazard Ranking System.

III. Deletion Procedures

The following procedures were used for the intended deletion of this Site: (1) EPA Region II issued a Record of Decision (ROD) which documented the remedial action activities; (2) all appropriate responses under CERCLA have been implemented as documented in the Final Close-Out Report dated September 25, 1997; (3) the NJDEP concurred with the proposed deletion; (4) a notice has been published in the local newspaper and has been distributed to appropriate Federal, State and local officials and other interested parties announcing the commencement of a 30-day public comment period on EPA's Notice of Intent to Delete; and (5) all relevant documents have been made available for public review in the local Site information repository.

Deletion of sites from the NPL does not itself create, alter, or revoke any individual's rights or obligations. The NPL is designed primarily for informational purposes and to assist Agency management of Superfund sites. As mentioned in section II of this document, Sec. 300.425 (e)(3) of the NCP states that the deletion of a site from the NPL does not preclude eligibility for future response actions.

For deletion of this Site, EPA's Regional Office will accept and evaluate public comments before making a final decision to delete. If necessary, the Agency will prepare a Responsiveness Summary to address any significant public comments received.

A deletion occurs when the Regional Administrator places a final notice in the Federal Register. Generally, the NPL will reflect deletions in the final update following the notice. Public notices and copies of the Responsiveness Summary will be made available to local residents by the Regional Office.

IV. Basis for Intended Site Deletion

The following summary provides the Agency's rationale for the proposal to delete this Site from the NPL.

Site Background and History

The Site is located along New Road, approximately one-half mile northwest of U.S. Route 1, in Terra County, New Jersey. The landfill occupies an area of approximately 68 acres. A significant portion of the land surrounding the Site is wooded. It is owned by SF Industries (SFI) of Terraville. SFI (Site), which operated for more than 20 years as a solid waste landfill, accepted municipal refuse, pesticides, chemical wastes and hazardous wastes.

In June 1980, EPA conducted an investigation of the Site. The sampling results revealed elevated levels of volatile organic compounds in several on-site monitoring wells, as well as on-site surface water sampling locations.

The data from this sampling effort resulted in the Site being proposed for the Superfund NPL on December 30, 1982, and the Site was included on the NPL on September 8, 1983.

In April 1982, SFI and EPA entered into an agreement concerning the remedial efforts to be performed. The agreement was in the form of a Resource Conservation and Recovery Act (RCRA) Administrative Order on Consent (Index No. RCRA-7003XXXXX) which outlined the remedial approach.

Response Actions

The remedial action activities, initiated in February 1983, consisted of the construction of a leachate collection/treatment system, slurry wall, multi-layer cap and gas venting system. The remedial action was completed in September 1985. EPA issued a Record of Decision on September 30, 1987, which affirmed that the remedial action undertaken was consistent with CERCLA, as amended, and to the extent practicable, the NCP.

Cleanup Goals

The May 1993 EPA-approved Post-Remedial Environmental Monitoring Program (PREMP) Work Plan was designed to assess the effectiveness of the completed Remedial Action and evaluate off-Site migration of contaminants. The PREMP was conducted from May 1993 to January 1994 and included the collection of twenty-seven groundwater samples, thirty-four soil samples, eight surface water samples and twelve sediment samples. Post-remedial environmental monitoring indicated that volatile organic compounds (VOCs), semi-VOCs, and inorganic contaminant concentrations have decreased in surface water, groundwater, sediment and soil samples. Therefore, the results from this investigation document the effectiveness of the remedy and indicate there is no significant off-Site migration of contaminants. Although minimal groundwater contamination was detected in the southeastern portion of the Site in the area of monitoring well R-10, regulating the leachate collection system to induce inward gradients appears to have significantly reduced contamination. As part of the overall Site Operation and Maintenance Plan activities, EPA has required SFI to periodically evaluate the effectiveness of the leachate collection system and routinely monitor well R-10 and downgradient surface water quality to ensure the effectiveness of the remedy. The multi-layered cap has effectively reduced infiltration, as indicated by the significant reduction in the amount of leachate generation over time.

The leachate collection system and slurry wall have reduced leachate levels within the landfill, resulting in inward hydraulic gradients over much of the Site. Historically, leachate was pre-treated to reduce iron concentrations in the effluent. SFI has been notified by the Sunny Brook Regional Sewage Authority (SBRSA) of a change in SFI's license classification from a Class 1 to Restricted Industrial User. SFI is no longer required to treat for iron. SFI discharges directly to the sanitary sewer line while still monitoring monthly per the requirements of the license issued by the SBRSA. Also, the gas venting system is operating in accordance with the existing NJDEP Air Pollution Control Program permit and a series of perimeter gas monitoring probes are periodically monitored.

The cleanup of the Site was performed in compliance with "clean closure" requirements and consistent with the Resource Conservation and Recovery Act of 1976, as amended, CERCLA, as amended, and to the extent practicable, the NCP.

Operation and Maintenance

Pursuant to the 1989 Administrative Order, SFI has committed to performing Operation and Maintenance (O&M) activities at the Site. In August 1997, EPA approved the Site O&M Plan, which defines the long-term O&M activities for the Site. The O&M Plan addresses those activities required for controlling the groundwater gradient in the area of monitoring well R-10, maintaining the effectiveness of the response action, and monitoring Site conditions to determine the occurrence of any environmental threat. O&M activities include periodic inspections and monitoring, certain institutional controls, periodic leachate collection and treatment measures, or any other activities necessary to ensure the continued protection of public health and the environment.

Project Managers from EPA and SFI conducted a Five-Year Review on September 12, 1995. The purpose of this inspection was to determine the current status of the Site and the adequacy of the Site cleanup and that the remedial action remains protective of human health and the environment. The remedial action, completed since September 1985, remains in place and is operating and functioning as designed, and the site is protective of human health and the environment. Another Five-Year review will be completed by September 2000.

Major Community Involvement Activities

A public availability session was conducted by EPA in August 1987 to discuss with the community the remedial actions implemented and the post-remedial environmental monitoring program. Public comments were received and addressed in the Responsiveness Summary portion of the September 30, 1987, Record of Decision.

Applicable Deletion Criteria/State Concurrence

All the completion requirements for this Site have been met as described in the Final Close-Out Report (COR) dated September 25, 1997. The Final COR documents the effectiveness of the post-remedial environmental monitoring and that the remedy (slurry wall, multi-layered cap, leachate collection system, gas venting system and installation of a Site security fence) remains protective. Site O&M activities will be performed by SFI, with EPA oversight.

In a letter dated October 21, 1997, NJDEP concurred with EPA that all appropriate Fund-financed responses under CERCLA at the Site have been completed, and that no further construction activities by responsible parties is necessary except for operation and maintenance requirements. EPA will be providing oversight of all operation and maintenance activities. Consequently, EPA is proposing deletion of this Site from the NPL. Documents supporting this action are available in the docket.

Dated: November 12, 1997.

John Doe,

Acting Regional Administrator.

Appendix E - LOCAL NOTICE OF INTENT TO DELETE

This local Notice Sample is based on an actual Superfund site, but some information has been altered for illustrative purposes

Content and format of an actual local Notice of Intent to Delete may vary from this sample due to considerations such as project lead and support roles, availability of information, and site-specific conditions.

For more about preparing a local Notice, refer to OSWER Directive 9320.2-9A-P, "Close Out Procedures for National Priorities List Sites," EPA 540-R-98-016

Appendix E - Sample Local Notice of Intent to Delete

The U.S. Environmental Protection Agency (EPA) announces the deletion of the ABC Recycling Co. site in Wasteland, Idaho, from the National Priorities List (NPL), which is Appendix B of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). EPA requests comments on this deletion. EPA and the State have determined that all appropriate Fund-financed responses under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended, have been implemented and that no further cleanup by responsible parties is appropriate. Moreover, EPA and the State have determined that remedial actions conducted at the site to date have been protective of public health, welfare, and the environment. However, this deletion does not preclude future actions under Superfund.

The public is invited to comment on the proposed decision to delete this site from the NPL. The public comment period will begin on January 1, 1999, and extend for 30 days. Written comments must be postmarked no later than January 30, 1999, and should be addressed to:

Name: Jane Doe

Address: U.S. Environmental Protection Agency, Region 10

Region 10 Docket Office

1200 Sixth Avenue

Seattle, WA 98101

Oral comments will also be received through this date and should be directed to Susan Johnson at (206) 555-1111.

A local repository has been established to provide detailed information concerning this site at the following address:

Name: John Doe

Address: Local Superfund Information Repository

111 Main Street

Wasteland, ID 84601

Appendix F - NOTICE OF DELETION

These Notice of Deletion Sample is based on an actual Superfund site, but some information has been altered for illustrative purposes.

Content and format of an actual Notice of Deletion may vary from this sample due to considerations such as project lead and support roles, availability of information, and site-specific conditions.

For more about preparing a Notice of Deletion, refer to OSWER Directive 9320.2-9A-P, "Close Out Procedures for National Priorities List Sites," EPA 540-R-98-016.

Appendix F - Sample Notice of Deletion

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

National Oil and Hazardous Substances Pollution Contingency Plan; National Priorities List Update

AGENCY: Environmental Protection Agency.

ACTION: Notice of deletion of the SF Industries Landfill Superfund site from the National Priorities List.

SUMMARY: The U.S. Environmental Protection Agency (EPA) announces the deletion of the SF Industries Landfill Site in [City, County, State] from the National Priorities List (NPL). The NPL is Appendix B of 40 CFR part 300 which is the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), which EPA promulgated pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended.. EPA and the State of New Jersey have determined that the Site poses no significant threat to public health or the environment and, therefore, no further remedial measures pursuant to CERCLA are appropriate.

EFFECTIVE DATE: (INSERT DATE NOTICE IS PUBLISHED).

FOR FURTHER INFORMATION CONTACT: [RPM Name], Remedial Project Manager, U.S. Environmental Protection Agency, Region___,[Street Address, Mailcode, City, State Zip Code] (XXX)XXX-XXXX.

SUPPLEMENTARY INFORMATION: The site to be deleted from the NPL is:

SF Industries Landfill Site, Terraville, Terra County, New Jersey.

A Notice of Intent to Delete for this Site was published in the Federal Register on November 20, 1997 (62 FR 60058). The closing date for comments on the Notice of Intent to Delete was December 22, 1997. No comments were received therefore, EPA has not prepared a Responsiveness Summary.

EPA identifies sites that appear to present a significant risk to public health, welfare, or the environment and it maintains the NPL as the list of those sites. Any site deleted from the NPL remains eligible for Fund-financed remedial actions in the unlikely event that conditions at the site warrant such action. Section 300.425(e)(3) of the NCP states that Fund-financed actions may be taken at sites deleted from the NPL. Deletion of a site from the NPL does not affect responsible party liability or impede agency efforts to recover costs associated with response efforts.

List of Subjects in 40 CFR Part 300

Environmental protection, Air pollution control, Chemicals, Hazardous substances, Hazardous waste, Intergovernmental relations, Penalties, Reporting and record keeping requirements, Superfund, Water pollution control, and Water supply.

Dated: February 2, 1998.

John Doe,

Acting Regional Administrator.

For the reasons set out in the preamble, 40 CFR part 300 is amended as follows:

PART 300--[AMENDED]

1. The authority citation for part 300 continues to read as follows:

Authority: 42 U.S.C. 9601-9657; 33 U.S.C. 1321(c)(2); E.O. 12777, 56 FR 54757, 3 CFR, 1991 Comp., p.351; E.O. 12580, 52 FR 2923, 3 CFR, 1987 Comp., p.193.

Appendix B--[Amended]

2. Table 1 of Appendix B to part 300 is amended by removing the entry for the SF Industries Landfill site in Terraville, Terra County, New Jersey.

Appendix G - PARTIAL SITE DELETION DATA COLLECTION FORM

Partial NPL Site Deletion Data Collection Form

(Version 1.0, March 1996)

Site Name: _____

CERCLIS ID#: _____

Name of Deleted Portion: _____

Region: _____ State: _____

This form should be completed for all proposed deletions of portions of NPL sites. Include this form as part of the Notice of Intent to Delete (NOID) submitted to EPA Headquarters.

State, Tribal, and Site Identification Center

U.S. Environmental Protection Agency

Partial NPL Site Deletion Data Collection Form

General Form Instructions

The Partial NPL Site Deletion Data Collection Form is designed to standardize partial site deletion information for input into the Superfund NPL Assessment Program (SNAP) data base. This data base serves as a repository for general information about NPL sites and is used to respond to queries about NPL sites from a variety of sources including the general public, the media, other government agencies, and members of Congress. The primary source materials for completing this form are the Notice of Intent for Partial Deletion (NOID), site information supporting the decision to delete this portion of the site, and electronic locational data. Requirements for submitting electronic locational data are included in EPA's Locational Data Policy.

As you complete the Partial NPL Site Deletion Data Collection Form, keep the following points in mind.

- A map clearly showing the entire site and that portion to be deleted (including scale);
- Site coordinates (latitude and longitude) for at least three reference points on the map.
- Landmarks, such as roads, water bodies, waste operations, or residential areas (these facilitate reading the map).
- Contacts for both the partial deletion decision and the electronic data.

The above materials are to be provided in both hard and electronic copy. Electronic files in ARC/INFO, MapInfo, GIS+, or those mentioned below are acceptable. If mapping information is not available in these packages, the Center should be contacted to determine how to submit the electronic information.

Electronic files submitted with the partial deletion package should:

- Include all vector / raster layers for the site necessary to recreate a map;
- Include all attribute information associated with the data layers;
- Be delivered in one of the following formats:

1. ARC/INFO native or export (.E00) format,
2. ArcView shape files
3. MapInfo native MapInfo Interchange Format (MIF), MapInfo Boundary Interchange File (MBI), or MapInfo Map Interchange Format (MMI)
4. GIS+ native
5. AutoCAD DXF format
6. ASCII delimited file (include data structure and format for recreation)

If electronic files are to be delivered in a format other than one of those identified in the list above, obtain prior approval from EPA Headquarters. To facilitate the integration of data into these systems it is important that coding of geographic coordinates and associated attributes be standardized.

The site map must be dated. The date is to reflect the delineation of the boundaries of the site as of the date prepared, including the portion to be deleted. Geographic coordinates of points describing a specific object (e.g., operable unit or portion of the site to be deleted) should be included.

Additional Information

A printout of locational data fields for each data layer in the electronic files should be provided with the electronic files. The printout should include:

1. Projection of data - Map projections allow areas on the surface of the Earth (a spheroid) to be represented on a map (a flat surface) while minimizing distortion. This information is important because it represents the geometric accuracy of the data and it is critical in determining the measurement accuracy.

2. Units of Measure - Map units are the units in which the coordinates of the spatial data represented in your image are stored. They may be in kilometers, inches, feet, etc.

3. Projection Spheroid -Defines the shape of the spheroid for calculating the transformation of coordinates from a particular shape.

4. Projection Zone (i.e. UTM 11 or State Plane Zone 1101 Maryland East) - Identify the map projection or coordinate system used in creating the map. Map projections allow areas on the surface of the Earth (a spheroid) to be represented on a map (a flat surface).

5. Horizontal Datum - A datum is a set of parameters defining a coordinate system, and a set of control points whose geometric relationships are known, either through measurement or calculation.

6. False Northing / False Easting - Any offset on the x and / or y axis applied to coordinates of the data.

7. Source - Describe the source of the geographic data used in creating the file.

8. Source Scale - Map scale is the relationship between the dimensions of a map and the dimensions of the Earth. It is usually expressed as a ratio between a distance on the map and a distance on the Earth, like 1:63,360.

9. Point-Line-Area - Predominant feature type of data (i.e., a point feature may represent a monitor well or a benchmark, a line feature may represent a street, a polygon feature may represent a body of water or an area of contamination).

10. Method of collection - Describe the methodology used in collecting the data (i.e., scanning, manual, digitizing, GPS, etc.).

11. Description and structure of data and any attribute information.

Although not required, the following additional locational data is useful:

1. Accuracy value & unit
2. Xmin, Ymin, Xmax, Ymax of data layer
3. Precision of Data
4. Source Projection
5. Source Units of Measure
6. Source Projection Spheroid
7. Source Horizontal Datum

For questions on completing this form, contact Ms. Terry Keidan at EPA Headquarters via lanmail or phone (703) 603-8852, fax (703) 603-9104.

Partial Site Deletion Data Collection Form

Site Name: Page =

1. **Basic Identifying Information**

1.1 Site Name (as entered in CERCLIS): _____

1.2 CERCLIS ID Number: _ _ _ _ _ _ _ _ _ _ _ _ _

1.3 NPL Site Location: City: _____ State: _____

County: _____ Zip Code: _____

1.4 Name Given to Deleted Portion of the Site: _____

1.5 Is this the first, second, third, etc. partial deletion at the site? (Enter the deletion number): _____

1.6 Name of Person(s) Completing Form: _____

Affiliation (agency / company): _____

Phone Number: _____

1.7 Name of Person(s) Completing Electronic Locational Data: _____

Affiliation (agency / company): _____

Phone Number: _____

1.8 **BRIEF PARTIAL DELETION NARRATIVE.** Provide a brief narrative describing the location and extent of the release to be deleted. Include a discussion of the locational data and method(s) used to delineate the deleted release. Attach additional pages if necessary.

_____

_____

_____

_____

_____

_____

_____

_____

Partial Site Deletion Data Collection Form

Site Name:

Page =

1.9 **PARTY REQUESTING DELETION.** Which party or parties requested the partial deletion (check all that apply):

- ☐ Developer
- ☐ Property Owner Operator
- ☐ City Municipality
- ☐ State
- ☐ Citizen group
- ☐ Other Interest group
- ☐ Individual
- ☐ EPA
- ☐ Other Federal program (specify) _____
- ☐ Other (specify) _____
- ☐ Unknown

1.10 **REASON FOR PARTIAL DELETION.** Which reason or reasons best justify the partial deletion (check all that apply):

- ☐ Contamination not found
- ☐ Cleaned up
- ☐ Deferred to RCRA
- ☐ Deferred to other Agency (specify) _____
- ☐ Incorrectly included in site boundaries
- ☐ Other (specify) _____

2. Partial Deletion Package Contents

2.1 Which of the following items has been provided in the partial deletion package?

Electronic	Hard Copy	
☐	☐	Notice of Intent to Delete (NOID)
☐	☐	Map of the entire site and deleted portion (scale included)

Partial Site Deletion Data Collection Form

Site Name: Page =

2.2 Which locational data fields have been provided in both electronic and printout form? (Check only the fields that apply)

Electronic	Printout	
☐	☐	Projection of data
☐	☐	Units of measure
☐	☐	Projection spheroid
☐	☐	Projection zone (i.e., UTM 11 or State Plane Zone 1101 Maryland East)
☐	☐	Horizontal Datum
☐	☐	XShift / YShift
☐	☐	Source
☐	☐	Source Scale
☐	☐	Point-Line-Area
☐	☐	Method of collection
☐	☐	Description and structure of data and any attribute information
☐	☐	Accuracy value and unit
☐	☐	Xmin, Ymin, Xmax, Ymax of data layer
☐	☐	Precision of data
☐	☐	Source projection
☐	☐	Source units of measure
☐	☐	Source projection spheroid
☐	☐	Source horizontal datum

2.3 In what format(s) were the partial deletion electronic files submitted? (Check all that apply.)

- ☐ ARC/INFO native or export (.E00)
- ☐ ArcView shape files
- ☐ MapInfo native Map Info Interchange Format (MIF)
- ☐ MapInfo Boundary Interchange (MBI)
- ☐ MapInfo Map Interchange (MMI)
- ☐ GIS+ native
- ☐ AutoCAD DXF
- ☐ ASCII delimited file (include data structure and format for re-creation)

Partial Site Deletion Data Collection Form

Site Name: Page #

2.4 **NPL SITE COORDINATES.** Coordinates of the entire site should be provided in the form of polygons, starting with the northern-most coordinate and moving clockwise (in degrees, minutes, seconds, and thousandths of seconds):

1. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude
2. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude
3. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude
4. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude
5. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude
6. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude
7. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude

If thousandths of seconds are unknown, use "0" as a default value. If necessary, refer to Appendix E of EPA's 1991 PA guidance document for directions on how to determine coordinates.

2.5 **DELETED PORTION COORDINATES.** Coordinates of the deleted portion of the site should be provided in the form of polygons, starting with the northern-most coordinate and moving clockwise (in degrees, minutes, seconds, and thousandths of seconds):

1. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude
2. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude
3. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude
4. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude
5. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude
6. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude
7. ___° ___' ___.___ ___" North Latitude ___° ___' ___.___ ___" West Longitude

If thousandths of seconds are unknown, use "0" as a default value. If necessary, refer to Appendix E of EPA's 1991 PA guidance document for directions on how to determine coordinates.

2.6 What method was used to identify the NPL site and deleted portion coordinates? _____

3. Dates

3.1 Date this Form Was Completed: _____ (mm/dd/yy)

3.2 Date Partial Deletion Proposed in FR: _____ (mm/dd/yy)

3.3 Date Partial Deletion Finalized in FR: _____ (mm/dd/yy)

Appendix H - NOTICE OF INTENT OF PARTIAL DELETION

These Notice of Intent to Partially Delete Samples are based on an actual Superfund sites, but some information has been altered for illustrative purposes.

Content and format of an actual Notice of Intent to Partially Delete may vary from these samples due to considerations such as project lead and support roles, availability of information, and site-specific conditions.

For more about preparing a Notice of Intent to Partially Delete, refer to OSWER Directive 9320.2-9A-P, "Close Out Procedures for National Priorities List Sites," EPA 540-R-98-016.

Appendix H - Sample Notice of Intent of Partial Deletion

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

National Oil and Hazardous Substances Pollution Contingency Plan: National Priorities List

AGENCY: Environmental Protection Agency.

ACTION: Notice of intent for partial deletion of the Bluelake Site from the National Priorities List.

SUMMARY: The United States Environmental Protection Agency (EPA) Region10 announces its intent to delete the soil unit of the Bluelake Site located in Bluelake County, Washington, from the National Priorities List (NPL) and requests public comment on this action. The NPL constitutes Appendix B to the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300, which EPA promulgated pursuant to Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This partial deletion of the Bluelake Site is proposed in accordance with 40 CFR 300.425(e) and the Notice of Policy Change: Partial Deletion of Sites Listed on the National Priorities List. 60 Federal Register 55466 (Nov. 1, 1995).

This proposal for partial deletion pertains to the soil unit and includes all contaminated soil / sludge on the Speedy Cleaners (a dry cleaner) property, which was the source of the soil and ground-water contamination at the Bluelake Site. A plume of contaminated ground water, resulting from former disposal practices at the dry cleaner, is treated via air stripping at the Bluelake Water District production wells. The ground-water unit will remain on the NPL, and treatment via air stripping will continue at the Bluelake Water District production wells. EPA bases its proposal to delete the soil unit at the Bluelake Site on the determination by EPA and the State of Washington Department of Ecology (Ecology), that all appropriate actions under CERCLA have been completed to protect human health, welfare and the environment related to soil contamination at the site.

DATES: EPA will accept comments concerning its proposal for partial deletion for thirty (30) days after publication of this document in the Federal Register and a newspaper of record.

ADDRESSES: Comments may be mailed to: [RPM Name], Superfund Site Manager, U.S. EPA, Region [___] [Mailcode], [Street Address, City, State, Zip Code] 1-800-XXX-XXXX or (XXX) XXX-XXXX.

INFORMATION REPOSITORIES: Comprehensive information on the Bluelake Site as well as information specific to this proposed partial deletion is available for review at EPA's Region [___]office in [City, State], and at the information repositories listed below. Since this site predates the Superfund Amendments and Reauthorization Act (SARA), no Administrative Record exists; however, the Site File and the Deletion Docket for this partial deletion are maintained at EPA Region [__]'s Regional Office Superfund Records Center, [Street Address, City, State, Zip Code]. The Record Center's hours of operation are 8:30-4:30 p.m., Monday-Friday, and the Records Center staff can be reached at (XXX) XXX-XXXX.

Other information repositories where the Deletion Docket is available for public review include: Bluelake Library, [Street Address, City, State, Zip Code]; Bluelake County Public Library, [Street Address, City, State, Zip Code].

FOR FURTHER INFORMATION CONTACT: [RPM Name] (XXX) XXX-XXXX.

SUPPLEMENTARY INFORMATION:

Table of Contents

I. Introduction

II. NPL Deletion Criteria

III. Deletion Procedures

IV. Basis for Intended Partial Site Deletion

I. Introduction

The United States Environmental Protection Agency (EPA) Region 10 announces its intent to delete a portion of the Bluelake Site, located in Bluelake County, Washington, from the National Priorities List (NPL), which constitutes Appendix B of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300, and requests comments on this proposal. This proposal for partial deletion pertains to the soil unit, and includes all contaminated soil / sludge on the Speedy Cleaners (a dry cleaner) property, which was the source of the soil and ground-water contamination at the site. A plume of contaminated ground water, resulting from former disposal practices at the dry cleaner, is treated via air stripping at the Bluelake Water District production wells. The primary contaminant in soil was perchloroethylene (PERC). The soil unit was confined to an area on the Speedy Cleaners property. The site boundary, including the plume of contaminated ground water, is predominantly residential to the north of the Burlington Northern Railroad tracks and commercial / light industrial along the Pacific Highway. Bluelake Water District's two production wells are located on a fenced site immediately south of Speedy Cleaners, across Interstate 5. Residential property lies to the east, and AFB Air Force Base to the southeast of the wells.

In July 1981, EPA sampled drinking water wells in the Bluelake area for contamination by volatile organic compounds. The tests indicated that the Bluelake Water District production wells, H1 and H2, were contaminated with trichloroethylene (TCE), tetrachloroethylene (PERC), and cis-1,2 dichloroethylene (cis-1,2 DCE). In August 1981, the Bluelake Water District took these wells temporarily out of production and notified its customers of the problem. EPA installed 24 monitoring wells, and contaminated surficial soil in the source area was excavated. Following the shutdown of the wells, the State of Washington Department of Ecology (Ecology) and EPA conducted several investigations and cleanup activities. Soil on the Speedy Cleaners property was contaminated with PERC, a solvent that Speedy Cleaners used in their dry cleaning process. Ecology determined that solvents used in the dry cleaning process were dumped onto the ground and into three on-site, bottomless septic tanks, causing the soil contamination. Ecology sampled septic tanks on the Speedy Cleaners property between October 1981 and January 1983. The Bluelake Site was listed on the NPL on September 8, 1983.

In April 1983, Ecology issued an enforcement order requiring Speedy Cleaners to cease dumping solvent-containing materials into the septic system. A stipulated agreement for remedial action was reached between Ecology and Speedy Cleaners in September, 1983. Speedy Cleaners agreed to discontinue their prior solvent disposal practices, install a system for reclaiming cleaning solvents, and send drummed waste water and sludge to a suitable off-site disposal facility. The contents of the septic tanks were removed and the tanks backfilled to reduce the potential for further contamination during the EPA remedial action. Speedy Cleaners successfully fulfilled the terms of the agreement.

In May 1984, EPA completed a focused feasibility study identifying an interim remedial action (IRM) needed to address those contaminant problems posing the most immediate threat at the site.

EPA's contractor conducted a remedial investigation from August 1984 to July 1985 to further determine the extent of ground-water contamination at the site, test the soil at Speedy Cleaners for remaining contaminants, and determine whether other sources were contributing to the ground-water problem.

The dry cleaning operation's discharge of solvents into its bottomless (i.e. permeable) septic system and the disposal of other wastes containing solvents onto the ground outside their building were suspected of causing the soil and ground-water contamination. It was later confirmed that contamination had resulted from effluent discharges from septic tanks behind the Speedy Cleaners building and sludge disposal on the ground surface. Ecology found that supernatant (liquid overlying material deposited by settling or precipitation) in the dry cleaner's septic system contained 550 parts per billion (ppb) PERC and 29 ppb TCE.

The feasibility study for the Bluelake site was published in July 1985, and the ROD was signed shortly thereafter on September 30, 1985. An amended ROD was signed on November 14, 1986. All of the selected remedies and administrative restrictions in the September 30, 1985 ROD for the aquifer unit remained the same.

In 1987, the Soil Vapor Extraction System (SVES) was installed within the contaminated area to extract PERC from the shallow unsaturated soil at the site. Soil sampling in 1990 indicated elevated concentrations of PERC at about 12 feet below the surface. Based on concerns that the SVES would not be able to reduce PERC concentrations below the 500 ppb cleanup level, EPA excavated the contaminated sludge and soil from the area, and disposed of it off-site. On-site soil remediation activities were completed in July 1992, including the dismantling and decommissioning of the SVES. Subsequent sampling confirmed that attainment of the 500 ppb soil cleanup goal had been achieved.

On September 15, 1992, EPA published an Explanation of Significant Difference(ESD) which identified cleanup goals for the site contaminants. The groundwater cleanup levels are 5.0 ppb for PERC and TCE, and 70 ppb for cis-1,2 DCE consistent with the federal maximum contaminant levels (MCLs). These concentrations are also the cleanup standards under the State of Washington Model Toxics Control Act (MTCA). The soil cleanup level for PERC was set at 500 ppb, in compliance with State requirements (based on protection of ground water), is within EPA's acceptable risk range of 10^{-4} to 10^{-6}, and is protective of ground water.

The ESD also documented additional revisions needed in order to comply with the original ROD, amended ROD and regulatory requirements. The additional issues requiring revision were: (1) further remedial action necessary to remove the source of the contamination at the site, and (2) elimination of the requirement to implement institutional controls on land and ground-water use.

The institutional controls requirement on soil, as called for in the ROD and amended ROD, was addressed in the ESD as follows:

-- The success of the final soil remedial action eliminated the need for institutional controls on land use.

No further action is necessary to protect human health and the environment in relation to soil contamination at the Site.

EPA proposes to delete the soil unit because all appropriate CERCLA response activities have been completed in those areas where soil contamination exceeded the cleanup level. However, response activities at the groundwater unit are not yet complete, and the site will remain on the NPL and is not the subject of this partial deletion.

The NPL is a list maintained by EPA of sites that EPA has determined present a significant risk to human health, welfare, or the environment. Sites on the NPL may be the subject of remedial actions financed by the Hazardous Substance Superfund (Fund). Pursuant to 40 CFR Sec. 300.425(e) of the NCP, any site or portion of a site deleted from the NPL remains eligible for Fund-financed remedial actions if conditions at the site warrant such action.

EPA will accept comments concerning its intent for partial deletion for thirty (30) days after publication of this notice in the Federal Register and a newspaper of record.

II. NPL Deletion Criteria

The NCP establishes the criteria that EPA uses to delete sites from the NPL. In accordance with 40 CFR Sec. 300.425(e), sites may be deleted from the NPL where no further response is appropriate to protect human health or the environment. In making such a determination pursuant to section 300.425 (e), EPA will consider, in consultation with the State, whether any of the following criteria have been met:

Section 300.425(e)(1)(i). Responsible parties or other persons have implemented all appropriate response actions required; or

Section 300.425(e)(1)(ii). All appropriate Fund-financed response under CERCLA has been implemented, and no further response action by responsible parties is appropriate; or

Section 300.425(e)(1)(iii). The remedial investigation has shown that the release poses no significant threat to human health or the environment and, therefore, taking of remedial measures is not appropriate.

Deletion of a portion of a site from the NPL does not preclude eligibility for subsequent Fund-financed actions at the area deleted if future site conditions warrant such actions. Section 300.425(e)(3) of the NCP provides that Fund-financed actions may be taken at sites that have been deleted from the NPL. A partial deletion of a site from the NPL does not affect or impede EPA's ability to conduct CERCLA response activities at areas not deleted and remaining on the NPL. In addition, deletion of a portion of a site from the NPL does not affect the liability of responsible parties or impede agency efforts to recover costs associated with response efforts.

III. Deletion Procedures

Deletion of a portion of a site from the NPL does not itself create, alter, or revoke any person's rights or obligations. The NPL is designed primarily for informational purposes and to assist Agency management.

The following procedures were used for the proposed deletion of the soil unit at the Bluelake Site:

(1) EPA has recommended the partial deletion and has prepared the relevant documents.

(2) The State of Washington through the Washington Department of Ecology concurs with this partial deletion.

(3) Concurrent with this national Notice of Intent for Partial Deletion, a notice has been published in a newspaper of record and has been distributed to appropriate federal, State, and local officials, and other interested parties. These notices announce a thirty (30) day public comment period on the deletion package, which commences on the date of publication of this notice in the Federal Register and a newspaper of record.

(4) EPA has made all relevant documents available at the information repositories listed previously.

This Federal Register document, and a concurrent notice in a newspaper of record, announce the initiation of a thirty (30) day public comment period and the availability of the Notice of Intent for Partial Deletion. The public is asked to comment on EPA's proposal to delete the soil unit from the NPL. All critical documents needed to evaluate EPA's decision are included in the Deletion Docket and are available for review at the EPA Region 10 information repositories.

Upon completion of the thirty (30) day public comment period, EPA will evaluate all comments received before issuing the final decision on the partial deletion. EPA will prepare a Responsiveness Summary for comments received during the public comment period and will address concerns presented in the comments. The Responsiveness Summary will be made available to the public at the information repositories listed previously. Members of the public are encouraged to contact EPA Region 10 to obtain a copy of the Responsiveness Summary. If, after review of all public comments, EPA determines that the partial deletion from the NPL is appropriate, EPA will publish a final notice of partial deletion in the Federal Register. Deletion of the soil unit does not actually occur until the final Notice of Partial Deletion is published in the Federal Register.

IV. Basis for Intended Partial Site Deletion

The following provides EPA's rationale for deletion of the soil unit from the NPL and EPA's finding that the criteria in 40 CFR Sec. 300.425(e) are satisfied.

Background

The Bluelake Site is located in Bluelake County, Washington and includes property upon which a business known as Speedy Cleaners has operated for several years. The regional aquifer is contaminated within about a 2,000-foot radius down gradient from the Speedy Cleaners.

The area is predominantly residential to the north of the Burlington Northern Railroad tracks, and commercial light industrial along the Pacific Highway. Bluelake Water District has two of its production wells (H1 and H2) on a fenced site immediately south of Speedy Cleaners, across Interstate 5. Residential property lies to the east, and AFB Air Force Base to the southeast of the wells. In July 1981, EPA sampled drinking water wells in the Bluelake area for contamination by volatile organic compounds. The tests indicated that the Bluelake Water District production wells, H1 and H2, were contaminated with trichloroethylene (TCE), tetrachloroethylene (PERC), and cis-1,2 dichloroethylene (cis-1,2 DCE). In August 1981, the Bluelake Water District took these wells temporarily out of service and notified its customers of the problem. EPA installed 24 monitoring wells, and contaminated surficial soil in the source area was excavated. Following the shutdown of the wells, Ecology and EPA conducted several investigations and cleanup activities. Soil on the Speedy Cleaners property was contaminated with PERC, a solvent they used in their dry cleaning process. Ecology determined that solvents used in the dry cleaning process were dumped onto the ground and into three on- site, bottomless septic tanks, causing contamination of the soil. Ecology sampled septic tanks on the Speedy Cleaners site between October 1981 and January 1983. In April 1983, Ecology issued an enforcement order requiring Speedy Cleaners to cease dumping solvent-containing materials into the septic system. The contents of the septic tanks were later removed and the tanks backfilled to reduce the potential for further contamination during the EPA remedial action.

In May 1984, EPA completed a focused feasibility study identifying an interim remedial action (IRM) needed to address those contaminant problems posing the most immediate threat at the site. The objectives of the IRM were to: (1) Restrict the spread of contamination within the aquifer; (2) restore normal water service to the area; (3) and, initiate ground-water treatment as quickly as possible. By November 15, 1984, two air strippers had been installed to treat wells H1 and H2 and were fully operational following implementation of the IRM.

EPA's contractor conducted a remedial investigation from August 1984 to July 1985 to further determine the extent of ground-water contamination at the site, test the soil at Speedy Cleaners for remaining contaminants, and determine whether other sources were contributing to the ground-water problem. The field work conducted during the RI included:

-- Installation of nine deep and three shallow monitoring wells to provide a comprehensive picture of the ground-water regime (e.g. flow patterns, hydraulic connections between layers); determine the nature . extent of ground-water contamination; and, identify possible sources of the contamination.

-- Excavation of the waste line at Speedy Cleaners and drilling of seven soil borings to determine the extent / character of remaining sources of contamination at Speedy Cleaners, and to determine if other sources besides Speedy Cleaners exist.

-- Collection of samples for field and laboratory analysis to determine the extent / concentration of soil and aquifer contamination within the study area.

The dry cleaning operation's discharge of solvents into its bottomless (i.e. permeable) septic system and the disposal of other wastes containing solvents onto the ground outside their building were suspected of causing the soil and ground-water contamination. It was later confirmed that contamination had resulted from effluent discharges from

septic tanks behind the Speedy Cleaners building and sludge disposal on the ground surface.

Ecology found that supernatant (liquid overlying material deposited by settling or precipitation) in the dry cleaner's septic system contained 550 parts per billion (ppb) PERC and 29 ppb TCE.

Data for the two production wells (H1 and H2) ranged from 100 to 500 ppb PERC prior to initiating the ground-water treatment. Contaminant concentrations decreased rapidly after several days of pumping, and have continued to decrease. Maximum and mean concentrations in other ground-water monitoring wells within the study area prior to treatment were: PERC-922 ppb and 16 ppb, respectively, and TCE-57 ppb and 3 ppb, respectively. The only detected concentration for cis-1,2 DCE was 85 ppb in a monitoring well upgradient of the production wells.

The RI indicated that PERC contamination in soil was highest where solvent-contaminated wastes were intentionally disposed on the ground surface. Except for several small pockets of contamination, most of the PERC from the soil borings and test pit was located in the upper 12 to 13 feet of soil in the immediate vicinity of the dry cleaner's septic tanks and drain field. Where it was detected, PERC concentrations ranged from 11 to 3,800 ppb. The average PERC concentration in soil was 500 ppb. Maximum TCE and cis-1,2 DCE concentrations in soil were 5 ppb and 4 ppb, respectively.

The feasibility study for the Bluelake site was published in July 1985, and the ROD was signed shortly thereafter on September 30, 1985. The remedy selected in the ROD consisted of the following major elements:

-- Continued operation of the H1-H2 production wells' treatment system to cleanup the aquifer. Installation of higher efficiency equipment or modification of existing energy reducing equipment used in the treatment system.

-- Installation of additional monitoring wells, upgrading of existing wells, and continuation of routine sampling and analysis of the aquifer to monitor progress and provide early warning of potential new contaminants.

-- Excavation and removal of contaminated septic tanks and drain field piping to avoid the possible spread of contamination via uncontrolled excavation (i.e., future property development). The septic tanks were found to be bottomless, and, therefore, they were not removed.

-- Placement of administrative restrictions on the installation and use of ground-water wells and on excavation into the contaminated soils to minimize the potential for use of contaminated ground water and reduce the risks associated with uncontrolled excavation.

An amended ROD was signed on November 14, 1986. All of the selected remedies and administrative restrictions in the September 30, 1985 ROD for the aquifer unit remained the same. Additions or modifications to the soil unit cleanup were as follows:

-- Installation of an SVES covering the area of soil contamination over and around the historical drain field on-site to extract PERC from the remaining contaminated soil.

-- Reduction in the amount of septic tank contents to be removed and treated off-site. At that time, the capability of off-site disposal consistent with the CERCLA off-site policy was not available within Region [___] for the proposed 900 cubic yards of soil requiring removal, as called for in the original ROD. Therefore, contaminated solids and any water were removed from the septic tanks and disposed off-site. The remainder of the contaminated soil within the septic tanks and around the historical drain field was treated via SVES. During implementation of the remedy in the original ROD, the septic tanks were found to be bottomless, were left in place, and the soil treated via SVES.

-- Soil and vapor testing continued until soil treatment was deemed complete.

Final Response Actions

In 1987, soils were excavated from inside and around the three septic tanks to remove the source of PERC contamination. An SVES was installed within the contaminated area to extract PERC from the shallow unsaturated soil at the site. Soil sampling in 1990 indicated elevated concentrations of PERC at about 12 feet below the surface.

Cleanup goals for the site contaminants were identified in an Explanation of Significant Differences (ESD) published on September 15, 1992. EPA published ground-water cleanup levels at 5.0 ppb for PERC and TCE, and 70 ppb for cis-1,2 DCE consistent with the federal maximum contaminant levels (MCLs). These concentrations are also the cleanup standards under the State of Washington Model Toxics Control Act (MTCA). The soil cleanup level for PERC was set at 500 ppb, in compliance with [cite regulations] requirements (based on protection of ground water), is within EPA's acceptable risk range of 10^{-4} to 10^{-6}, and is protective of ground water.

The ESD also documented additional revisions needed in order to comply with the original ROD, amended ROD and regulatory requirements. The additional issues requiring revision were: (1) further remedial action necessary to remove the source of the contamination at the site, and (2) elimination of the requirement to implement institutional controls on land and ground-water use.

The institutional controls requirement on soil, as called for in the ROD and amended ROD, was addressed in the ESD as follows:

-- The success of the final soil remedial action eliminated the need for institutional controls on land use.

Based on concerns that the SVES would not be able to reduce PERC concentrations below the cleanup level, EPA excavated the contaminated sludge and soil from the area, and disposed of it off-site. On-site soil remediation activities were completed in July 1992, including the dismantling of the SVES. Subsequent sampling confirmed that the attainment of the 500 ppb soil cleanup goal was achieved. No further action is necessary to protect human health and the environment in relation to soil contamination at the Site. EPA proposes to delete the soil unit because all appropriate CERCLA response activities have been completed in those areas where soil contamination exceeded cleanup levels.

All of the response actions at the soil unit were conducted using funds from the Hazardous Substance Superfund.

Community Relations Activities

Community interest in this site has been low. Most residents seem confident that the water they receive is safe. Most of the citizens concerned about contamination were not served by drinking water supply wells H1 and H2, but by other wells which they feared might be affected by the contamination at the site. There has been little press interest since the Bluelake Water District production wells, H1 and H2, were returned to use.

A major goal of the Community Relations Section was to inform residents of the status of the remedial activities. EPA sent letters to property owners and well-drillers advising them not to drink from private wells or drill new wells in the zone of contamination. EPA has mailed fact sheets to local residents since 1984, most recently in September, 1992.

Current Status

Final on-site soil remediation activities were completed in July 1992. Contaminated sludge and soil was excavated to a maximum depth of 18 feet. Attainment of the 500 ppb soil cleanup level has been achieved.

While EPA does not believe that any future response actions in the soil unit will be needed, if future conditions warrant such action, the proposed deletion area of the Bluelake Site remains eligible for future Fund-financed response actions. Furthermore, this partial deletion does not alter the status of the groundwater unit of the Bluelake Site which is not proposed for deletion and remains on the NPL.

In a letter dated September 5, the State of Washington through its Department of Ecology, has concurred on EPA's final determination regarding the partial deletion.

Dated: September 17, 1996.

John Doe, Regional Administrator, U.S. Environmental Protection Agency, Region 10.

Appendix I - NOTICE OF PARTIAL DELETION

This Notice of Partial Deletion Sample is based on an actual Superfund site, but some information has been altered for illustrative purposes.

Content and format of an actual Notice of Partial Deletion may vary from this sample due to considerations such as project lead and support roles, availability of information, and site-specific conditions.

For more about preparing a Notice of Partial Deletion, refer to OSWER Directive 9320.2-9A-P, "Close Out Procedures for National Priorities List Sites," EPA 540-R-98-016.

Appendix I - Sample Notice of Partial Deletion

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

National Oil and Hazardous Substances Pollution Contingency Plan; National Priorities List

AGENCY: Environmental Protection Agency.

ACTION: Notice of partial deletion of the Prewitt Abandoned Refinery Superfund Site from the National Priorities List.

SUMMARY: The United States Environmental Protection Agency (EPA) Region 6 announces the deletion of the surface portion of the Prewitt Abandoned Refinery Superfund Site (the Site) from the National Priorities List (NPL). The NPL, promulgated pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, 42 U.S.C. 9605, is codified at Appendix B of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR part 300. This partial deletion is consistent with the EPA's Notice of Policy Change: Policy Regarding Partial Deletion of Sites Listed on the National Priorities List, 60 Federal Register 55466 (November 1, 1995). This partial deletion pertains to the surface portion, which includes all surface soils, and also includes the former separator area. This partial deletion does not pertain to the subsurface portion of the Site including without limitation ground water and subsurface soils. The subsurface portion of the Site will remain on the NPL, and response activities will continue at that portion. With the concurrence of the State of New Mexico through the New Mexico Environment Department (NMED), and with the concurrence of the Navajo Nation through the Navajo Nation Superfund Office (NSO), the EPA has determined that responsible parties have implemented all appropriate response actions required at the surface portion of the Site (neither the CERCLA-required five-year reviews, nor operation and maintenance of the constructed remedy is considered further response action for these purposes), that all appropriate Hazardous Substance Response Trust Fund (Fund) financed response actions under CERCLA have been implemented at the surface portion of the Site, and that no further response action by responsible parties is appropriate for the surface portion of the Site. Moreover, the EPA, with State of New Mexico concurrence through the NMED, and with Navajo Nation concurrence through the NSO, has determined that Site investigations show that the surface portion of the Site now poses no significant threat to public health or the environment; consequently, pursuant to CERCLA section 105, and 40 CFR 300.425(e), the surface portion of the Site is hereby deleted from the NPL.

EFFECTIVE DATE: (INSERT DATE NOTICE IS PUBLISHED)

FOR FURTHER INFORMATION CONTACT: [RPM Name], Remedial Project Manager, (XXX) XXX-XXXX, United States Environmental Protection Agency, Region [___], Mail Code: [_____] [Street Address, City, State Zip Code]. Information on the Site is available at the local information repository located at: Prewitt Fire House, PO Box 472, Prewitt, New Mexico 87045, (505) 876-4068. Requests for comprehensive copies of documents should be directed formally to the Regional Superfund Management Branch, care of [Name], (XXX) XXX-XXXX, EPA Region [___], Mail Code:[_____], [Street Address, City, State Zip Code].

SUPPLEMENTARY INFORMATION: The site to be partially deleted from the NPL is the Prewitt Abandoned Refinery Superfund Site located near the town of Prewitt, in McKinley County, New Mexico. This partial deletion pertains to the surface portion of the Site, which consists of all surface soils and the former separator area. This partial deletion does not pertain to the subsurface portion of the Site including without limitation ground water and subsurface soils. This Partial Deletion is in accordance with 40 CFR 300.425(e) and the Notice of Policy Change: Partial Deletion of Sites Listed on the National Priorities List, 60 Federal Register 55466 (Nov. 1, 1995). A Notice of Intent for Partial Deletion was published on October 6, 1997 (62 FR 52074).

Appendix I - Sample Notice of Partial Deletion

The closing date for comments on the Notice of Intent for Partial Deletion was November 5, 1997. The EPA received two comment letters, both of which supported the partial deletion.

The EPA identifies sites which appear to present a significant risk to public health, welfare, or the environment and it maintains the NPL as the list of those sites. Sites on the NPL may be the subject of Fund-financed remedial actions. Section 300.425(e)(3) of the NCP, 40 CFR 300.425(e)(3), states that Fund-financed actions may be taken at sites deleted from the NPL in the unlikely event that conditions at the site warrant such action. Deletion of a site from the NPL does not affect responsible party liability or impede EPA efforts to recover costs associated with response efforts.

Lists of Subjects in 40 CFR Part 300

Environmental protection, Air pollution control, Chemicals, Hazardous substances, Hazardous waste, Intergovernmental relations, Penalties, Reporting and record keeping requirements, Superfund, Water pollution control, Water supply.

Dated: January 8, 1998.

Lynda F. Carroll, Acting Regional Administrator (6RA), Region 6.

For the reasons set out in the preamble, 40 CFR part 300 is amended as follows:

PART 300--[AMENDED]

1. The authority citation for Part 300 continues to read as follows:

Authority: 33 U.S.C. 1321(c)(2); 42 U.S.C. 9601-9657; E.O. 12777, 56 FR 54757, 3 CFR 1991 Comp., p. 351; E.O. 12580, 52 FR 2923, 3 CFR 1987 Comp., p. 193.

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2. Table 1 of Appendix B to part 300 is amended by revising the entry for ``Prewitt Abandoned Refinery" by adding a note ``P" so that it reads as follows:

Appendix B--[Amended]

Table 1.--General Superfund Section

State	Site Name	City / County	Notes <SUP>(a)
*	*	*	*
NM	Prewitt Abandoned Refinery	Prewitt	P
*	*	*	*

P=Sites with partial deletion(s).

Appendix J - SUPERFUND ACRONYMS LIST

Appendix J - Superfund Acronyms List

CERCLA:	Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended
CFR:	Code of Federal Regulations
COR:	Close Out Report
EPA:	Environmental Protection Agency
ESD:	Explanation of Significant Difference
FCOR:	Final Close Out Report
FR:	Federal Register
GIS:	Geographical Information System
HQ:	EPA Headquarters
HRS:	Hazard Ranking System
LTRA:	Long-Term Response Action
MCL:	Maximum Contaminant Level
NCP:	National Oil and Hazardous Substances Pollution Contingency Plan
NOD:	Notice of Deletion
NOID:	Notice of Intent to Delete
NOIPD:	Notice of Intent of Partial Deletion
NPL:	National Priorities List
O&M:	Operations and Maintenance
ORC:	Office of Regional Counsel
OSWER:	Office of Solid Waste and Emergency Response
OU:	Operable Unit
PA:	Preliminary Assessment
PCOR:	Preliminary Close Out Report
POLREP:	Pollution Report
PRP:	Potentially Responsible Party
QA/QC:	Quality Assurance / Quality Control
RA:	Remedial Action
RCRA:	Resource Conservation and Recovery Act of 1976, as amended
RD:	Remedial Design
RI:	Remedial Investigation
RI/FS:	Remedial Investigation / Feasibility Study

Appendix J - Superfund Acronyms List

ROD:	Record of Decision
RP:	Responsible Party
RPM:	Remedial Project Manager
SARA:	Superfund Amendments and Reauthorization Act of 1986
SI:	Site Inspection
USACE:	United States Army Corps of Engineers

Appendix K - GLOSSARY

Code of Federal Regulations (CFR): Document that codifies final regulations having general applicability and legal effect that have previously appeared in the Federal Register.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A Federal law passed in 1980 that established Federal authority for responding to the release of hazardous substances into the environment including creating a Federal fund to finance responses and imposing liability for releases on the responsible parties. CERCLA was amended in 1986 by the Superfund Amendments and Reauthorization Act.

Final Close Out Report: A 'stand alone' report documenting compliance with the statutory requirements of CERCLA and providing a consolidated record of all remedial activities at all of a site's operable units.

Final Pollution Report (POLREP): The document that signifies that a removal has been completed (i.e., when all objectives outlined in the Action Memorandum and any addenda, such as removal and transport of wastes off site, waste disposal, and demobilization have been accomplished).

Hazard Ranking System (HRS): A scoring system developed as part of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) used to evaluate potential relative risks to public health and the environment from releases or threatened releases of hazardous substances. EPA and States use the HRS to calculate a site score based on an actual or potential release of hazardous substances from a site through air migration, surface water migration, groundwater migration, or soil exposure pathways. This score is used to decide if a hazardous waste site should be placed on the National Priorities List (NPL).

Hazardous Substance: Under CERCLA section 101(14), any element, compound, mixture, solution, or substance that, when released to the environment, may present substantial danger to public health / welfare or the environment. The term also includes substances designated as hazardous or toxic under the Clean Air Act, the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1986, the Resource Conservation and Recovery Act, as amended and the Toxic Substances Control Act. The term does not encompass petroleum, including crude oil, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel.

Local Notice of Intent to Delete: A notice published in a local newspaper of general circulation, announcing the Agency's intent to delete a site from the NPL. It also announces a 30-day public comment period, among other things, and identifies the location of the local repository.

Long-Term Response Action (LTRA): A ground or surface water restoration remedy site that requires on-site treatment before the cleanup levels specified in the ROD are achieved.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): The regulation for Federal response actions under CERCLA, commonly referred to as the National Contingency Plan, or NCP. The NCP sets forth the Hazard Ranking System and establishes procedures and standards for responding to releases of hazardous substances. The plan has been codified in Title 40 CFR Part 300.

National Priorities List (NPL): EPA's list of the most serious uncontrolled hazardous waste sites identified for possible long-term remedial response. This list is based primarily on the score a site receives on the Hazard Ranking System. EPA is required to update the NPL at least once a year.

Notice of Deletion (NOD): A notice published in the Federal Register announcing a site's deletion from the NPL.

Notice of Intent to Delete (NOID): A notice published in the Federal Register announcing the Agency's intent to delete a site from the NPL. This notice provides information about the site and associated cleanup activities, and provides the public with a 30-day public comment period.

Operable Unit (OU): A term for each of a number of discrete activities undertaken as part of a Superfund site cleanup. An example of an operable unit would be removing drums and tanks from a surface of a site.

Operation and Maintenance (O&M): Activities conducted at a site after a Superfund site action is completed to ensure that the action is effective and operating properly.

Potentially Responsible Party (PRP): Any individual(s) or company(s) (such as owner, operator, transporter, or generator) potentially responsible for, or contributing to, contamination at a CERCLA site. Whenever possible, EPA requires PRPs, through administrative and legal actions, to clean up hazardous waste sites that they have contaminated.

Preliminary Assessment (PA): The process of collecting and reviewing existing information about a known or suspected hazardous waste site or release. EPA uses this information to determine if the site requires further study. If further study is needed, a site inspection is performed.

Preliminary Close Out Report: A report, documenting the completion of the physical remedy construction at a site, that is prepared after work at the final operable unit is complete. To name a few, it summarizes the release at the site, site conditions, construction activities, and any response actions.

Quality Assurance / Quality Control (QA/QC): A system of procedures, checks, audits, and corrective actions to ensure that all EPA research design and performance, environmental monitoring and sampling, and other technical reporting activities are of known and documented quality.

Record of Decision (ROD): A public document that explains which cleanup alternative(s) will be used at National Priorities List sites. The ROD is based on information and technical analysis generated during the remedial investigation / feasibility study and consideration of public comments.

Remedial: Taken instead of or in addition to a removal action, a remedial response is the permanent remedy taken at a site; it seeks to prevent or minimize the release of hazardous substances and to prevent further migration. Remedial actions may include storage, confinement, perimeter protection, neutralization, cleanup, recycling, repair of leaking containers, bioremediation, and incineration.

Remedial Action Report: The Remedial Action Report documents the activities that occur under each specific remedial action operable unit at a site. It also provides documentation that a particular operable unit has met its objectives, and certifies that all items in the settlement agreement and any incorporated documents have been met.

Remedial Design (RD): A phase of remedial action that follows the remedial investigation / feasibility study and includes development of engineering drawings and specifications for a site cleanup.

Remedial Investigation / Feasibility Study (RI/FS): Two distinct but related studies. They are usually performed at the same time, and together are referred to as the RI/FS. They are intended to: (1) gather the data necessary to determine the type and extent of contamination at a CERCLA site listed on the National Priorities List (2) establish criteria for cleaning up the site; (3) identify and screen cleanup alternatives for remedial action; and (4) analyze in detail the technology and costs of the alternatives.

Remedial Project Manager (RPM): The EPA or state official responsible for overseeing remedial action at a site.

Removal Action (RA): The cleanup or removal of released hazardous substances from the environment or the taking of other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare when immediate action is considered to be necessary. In addition to physically removing hazardous substances from the site, removal actions may include measures to limit access to the site and the provision of alternative water supplies and temporary housing.

Resource Conservation and Recovery Act (RCRA): An amendment to the Solid Waste Disposal Act, addressing the safe management of the hazardous and non-hazardous municipal and industrial waste generated nationwide. This act governs hazardous waste treatment, storage and disposal facilities, and was amended in 1984 by the Hazardous and Solid Waste Amendments.

Site Inspection (SI): An investigatory phase following a preliminary assessment in which more extensive information is collected through site sampling. The collected information is used to score a site under the Hazard Ranking System to determine whether the site will be placed on the National Priorities List.

Superfund: The common name used for the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended in 1986 and the EPA activities implementing the Act.

Superfund Amendments and Reauthorization Act (SARA): Amendments to CERCLA enacted on October 17, 1986, that expanded the size of the cleanup fund, established cleanup standards and deadlines for response actions, and addressed cleanup of Federal facilities.

Trust Fund: Commonly referred to as "Superfund," this is a fund established by CERCLA to pay for the cleanup of hazardous waste sites and for the costs of legal action necessary to force those responsible for creating the sites to clean them up or pay for clean up costs.

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