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Close Out Procedures for National Priorities List Sites

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

EPA employees can obtain additional copies of this guidance, or copies of documents referenced in the guidance, by calling the Superfund Document Center at 703-603-9232, or by sending an e-mail request to superfund.documentcenter@epa.gov. Non-EPA employees can obtain these documents by contacting the National Technical Information Service at 703-605-6000.

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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

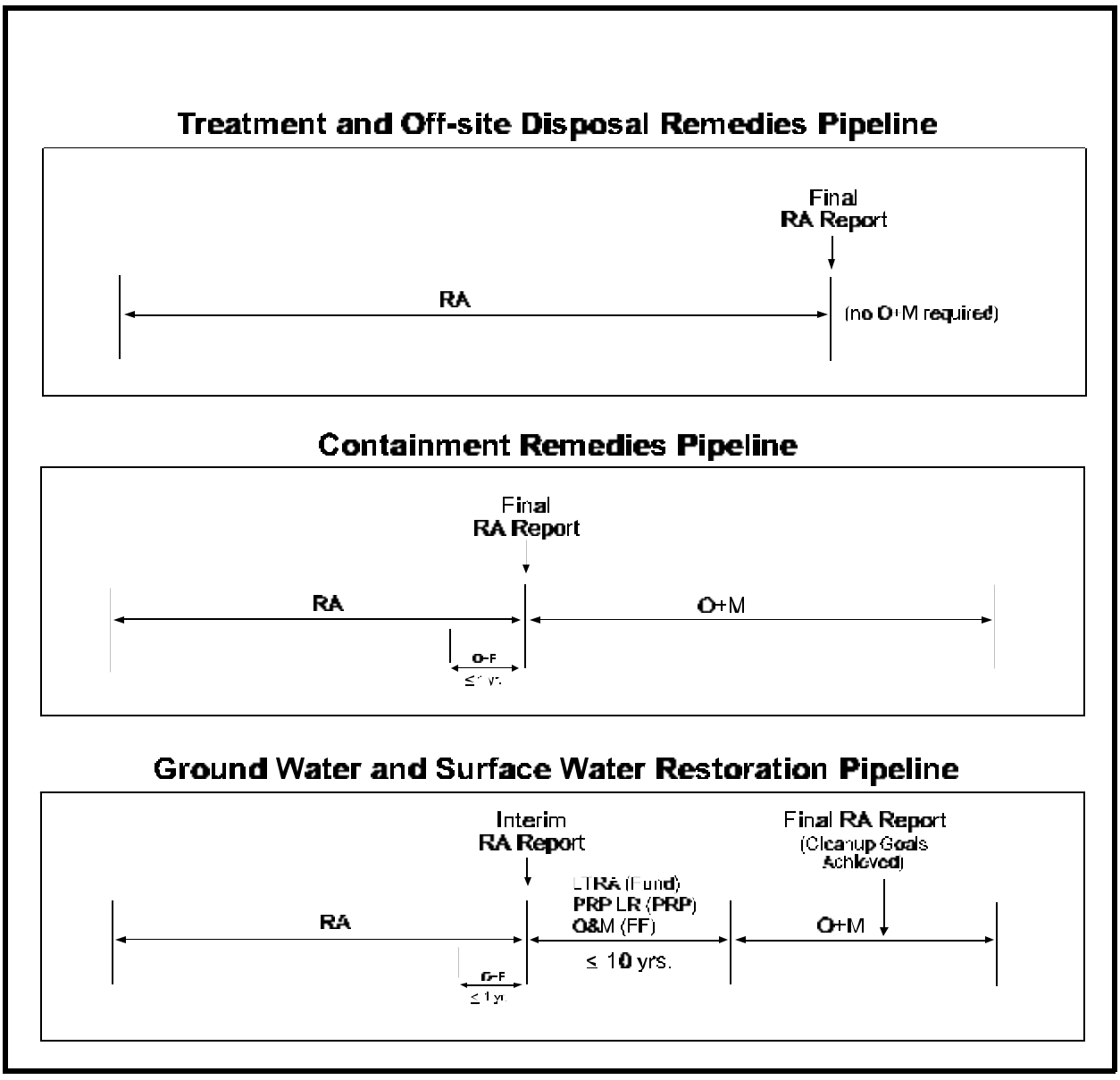
standards or conditions specified in the Cooperative Agreement that provides funds for the RA; Superfund State Contract; or CD is signed by EPA, the PRPs and Federal judge have been met with respect to O&M.

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.)*

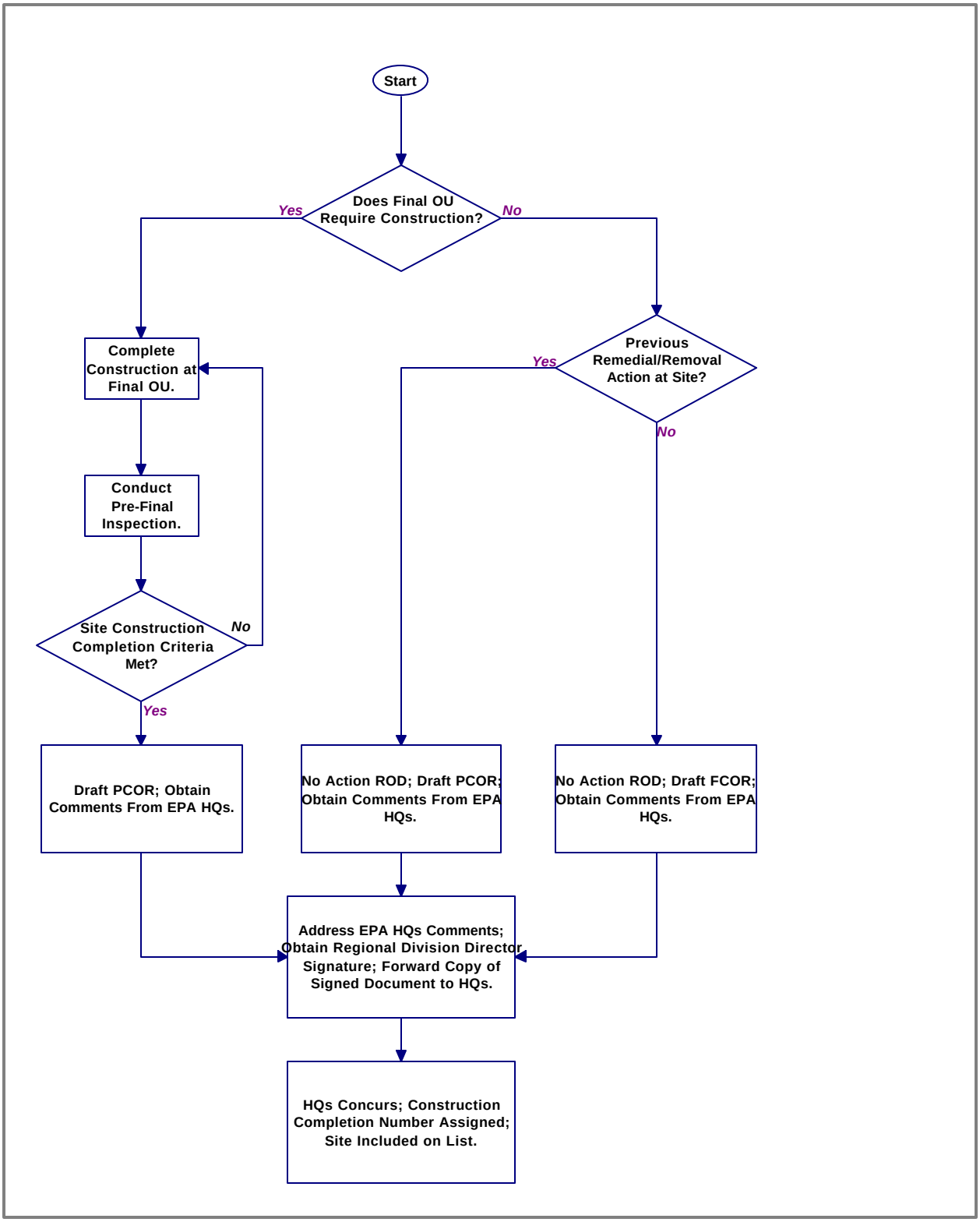
Only final NPL sites qualify for inclusion in the construction completion list. Final NPL sites qualify for inclusion in the construction completion list after completion of all construction work in all operable units of the site.

> 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.

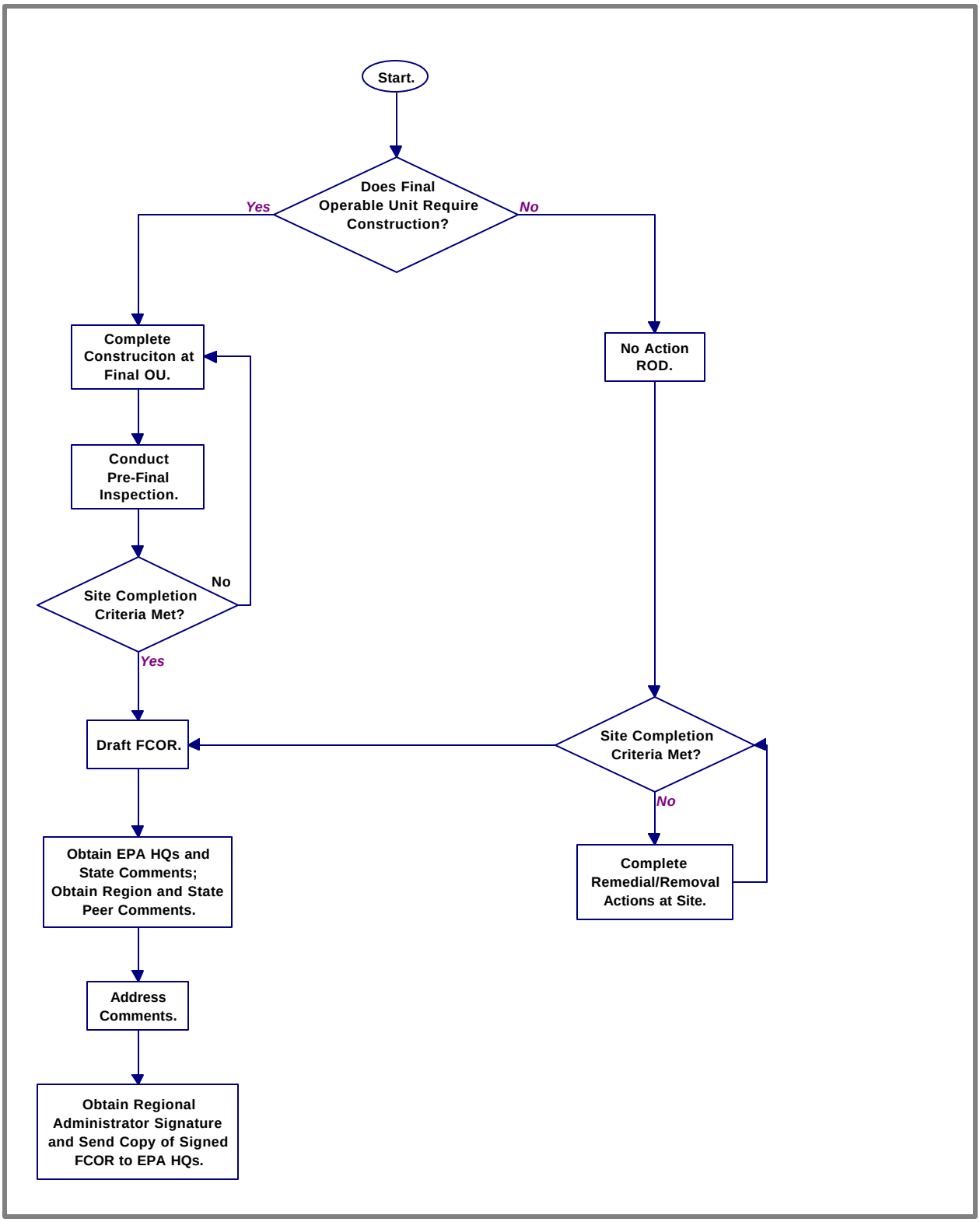
4.2.1 Removal Authority

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 s**ite 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). S**ite 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**. S**ite 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:

T 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.)

T 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."

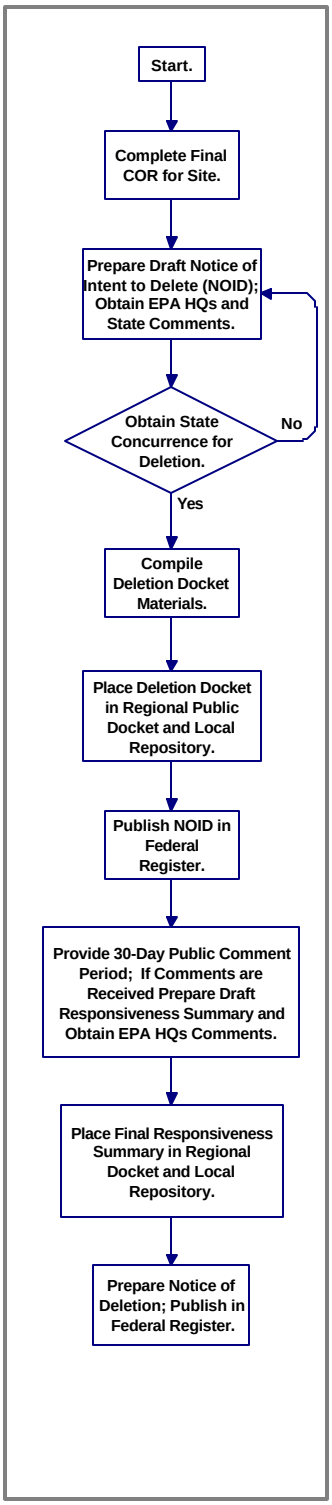
A site can de deleted from the NPL through a RCRA deferral action if it complies with the following criteria:

- 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:

- **T** Apply NCP criteria to verify deletion eligibility
- **T** Obtain State concurrence for site deletion
- **T** Compile deletion docket
  - Distribute deletion docket to appropriate repositories
- **T** 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
- **T** 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
- **T** Draft NOD
- **T** Publish NOD in Federal Register
- **T** 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.

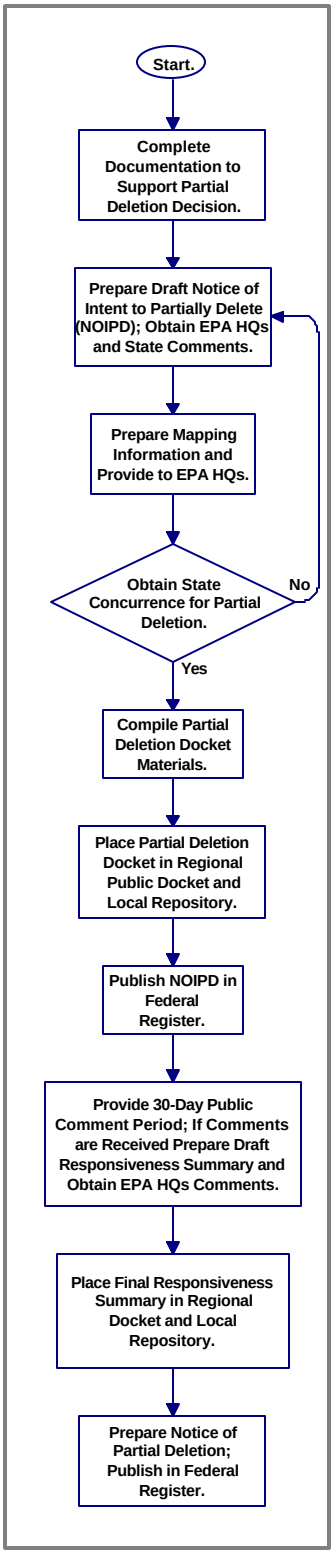
6.1 Partial Deletion Process

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:

- T Provide documentation that supports the basis for deletion (section 6.2.2)
- T Apply NCP criteria to verify deletion eligibility
- T Obtain State concurrence for partial site deletion
- T Compile partial deletion docket
  - Distribute partial deletion docket to appropriate repositories
- T Complete mapping requirements
  - Submit to EPA HQ for review and comment
- T 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
- T 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
- T Draft Notice of NOPD
- T Publish NOPD in Federal Register
- T 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