



Transfer of Long-Term Response Action (LTRA) Projects to States

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The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 104(c)(6), provides the statutory basis for the transfer of ground water and surface water restoration projects from the Environmental Protection Agency (EPA) to State Operation and Maintenance (O&M). The National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR§300.435(f)(3), states, “for fund-financed remedial actions involving treatment or other measures to restore ground water or surface water quality to a level that assures protection of human health and the environment, the operation of such treatment or other measures for a period up to ten years after the remedy becomes operational and functional (O&F) will be considered part of the remedial action. Activities required to maintain the effectiveness of such treatment or measures following the ten-year period, or after the remedial action is complete, whichever is earlier, shall be considered O&M.” EPA defines the ten-year period between the O&F determination and the start of O&M as a long-term response action (LTRA) and federal funding is still provided as it was for the remedial action. If cleanup goals have not been achieved upon completion of the ten years, the remedy transitions into O&M to be conducted by the State. Federal funds cannot be used to conduct O&M.

This fact sheet identifies key elements of the LTRA transfer process and provides guidance for Remedial Project Managers (RPMs) concerning the transfer of responsibilities from EPA to the State for O&M. Users of the *Remedial Design/Remedial Action (RD/RA) Handbook* are encouraged to place this fact sheet in Appendix I—Operations & Maintenance. This fact sheet can be downloaded from the superfund website: <http://www.epa.gov/superfund/action/postconstruction/index.htm>.

This document provides guidance to EPA personnel. It is not a regulation, and does not create any legal obligations on any person or entity. EPA will apply the guidance to any particular project only to the extent appropriate in light of the facts. EPA welcomes public comment on this document at any time.

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A. Overview

This fact sheet provides guidance to RPMs and others who have responsibilities for transferring LTRA projects from EPA to States. It gives practical information on planning for the transfer of a remedy from the LTRA to the O&M stage, including roles and responsibilities, documentation, and record keeping. This fact sheet complements the fact sheet, *Operation & Maintenance in the Superfund Program*, dated May 2001, OSWER 9200.1-37FS.

B. Key Definitions and Milestones

The concepts defined in this section are shown graphically in **Exhibit 1**. The actions and subactions are also defined in the Superfund Program Implementation Manual (SPIM) and are reported in the WasteLAN database.

What is a long-term response action (LTRA)?

The NCP, 40 CFR§300.435(f)(3), states: “For fund-financed remedial actions involving treatment or other measures to restore ground- or surface-water quality to a level that assures protection of human health and the environment, the operation of such treatment or other measures for a period of up to ten years after the remedy becomes operational and functional will be considered part of the remedial action.” The ten year period between the O&F determination and the start of O&M is defined for the purposes of this fact sheet as a long-term response action, LTRA, and federal funding is still provided as it was for the remedial action. Ground water pump and treat and monitored natural attenuation (MNA) remedies with objectives of aquifer restoration are currently the most common LTRA remedies.

The LTRA provision is limited to remedies involving ground water and surface water **restoration**. A restoration remedy is a remedial action with the objective of returning all or part of a surface water body or ground water aquifer to cleanup levels specified in the Record of Decision (ROD).

It should be noted that restoration can be the objective of interim remedies as well. Thus, an O&F determination for an interim remedy with a restoration objective will also initiate the LTRA ten-year period.

What is NOT considered an LTRA?

The NCP, 40 CFR§300.435(f)(4), identifies two remedies that are **not** considered restoration measures:

- Source control maintenance measures and
- Ground- or surface-water measures initiated for the primary purpose of providing a drinking water supply (not for the purpose of restoring ground water).

In addition, the following measures do not have ground water restoration as an objective, and therefore, would **NOT** be considered LTRAs:

- A ground water pump and treat remedy with containment as the only objective and
- Ground water monitoring only (with no restoration objective).

How are nonaqueous phase liquids (NAPLs) addressed?

Special consideration may be needed for response actions where the specific remedial action objective is the removal of nonaqueous phase liquid as a source material through direct extraction [e.g., pumping or collection trenches for light nonaqueous phase liquid (LNAPL)] or enhanced recovery techniques [e.g., in-situ thermal treatment for dense nonaqueous phase liquid (DNAPL)]. The remedial action objective for these actions is generally source removal or recovery. As such, these actions generally do not trigger the LTRA phase. However, DNAPL or LNAPL recovery frequently will be done concurrently

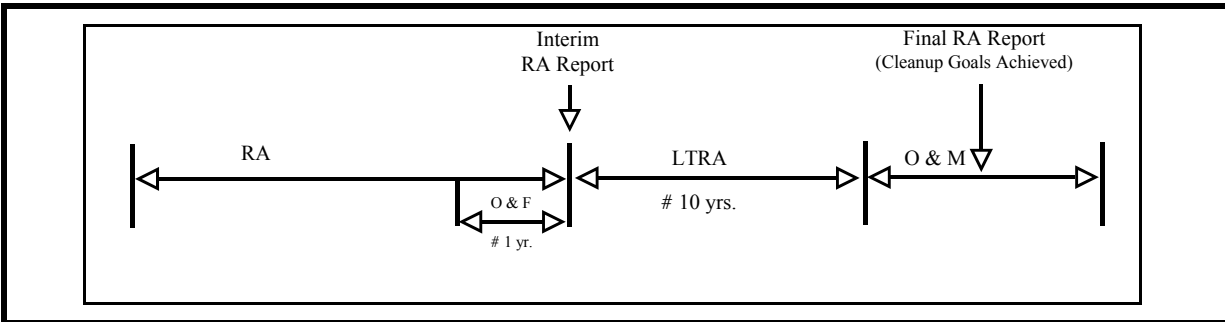


Exhibit 1- Fund-lead Ground Water and Surface Water Restoration Pipeline

with response actions to restore a ground water plume containing dissolved contaminants (using technologies such as pump and treat or MNA). In these cases, the response action addressing restoration of the ground water plume will transition to LTRA following the O&F determination.

What is the operational and functional (O&F) determination?

The NCP, 40 CFR§300.435(f)(2) states, “A remedy becomes operational and functional either one year after construction is complete (“shake-down” period), 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, as appropriate.” This reference to ‘construction is complete’ means the date when physical construction activities have been completed for the particular remedy component and is not the same as the ‘construction completion’ milestone for the entire site.

Formal O&F determinations are made for fund-financed remedies because the O&F milestone governs when EPA turns these remedies over

to the States for O&M. For fund-financed remedies, EPA and the State conduct a joint inspection at the conclusion of construction to determine that the remedy has been constructed properly. The joint inspection also marks the beginning of the one-year O&F period described above. The O&F milestone, determined by the approval of the Interim or Final Remedial Action (RA) Report, begins the ten-year LTRA period.

In cases where LTRA is not applicable, the O&F milestone begins the O&M period. See the *Operation & Maintenance in the Superfund Program* fact sheet for more information on O&F documentation.

What if EPA did not make an O&F determination or did not enter a date of “O&F Actual Completion” in WasteLAN?

As indicated in the current version of the SPIM, the date of O&F completion is documented in the Interim or Final RA Report. It may also be documented by letter to the interested parties. For remedies that were O&F prior to fiscal year 2000, however, the documentation requirements were not as clearly specified.

If an O&F completion date has not been documented and entered in WasteLAN, it is critical that the Region establish this date in order to properly track the start of the ten-year LTRA period and transfer the remedy to the State at the end of LTRA. Possible approaches are:

- 1) Check the site files for any letters or other correspondence to the State that may have established the O&F completion date. Enter that date in WasteLAN.
- 2) Check the site files for documentation of when construction was completed for the restoration remedy OU, which establishes the start of the one-year O&F period. A contractor progress report, documentation of a contract final inspection, or documentation of a joint inspection with the State may exist to establish when construction was completed for the relevant OU. The OU is considered O&F complete one year after physical construction is complete, unless EPA extends the period.
- 3) If remedial action completion has been documented for the restoration remedy OU, through an Interim or Final RA Report, this document can also establish the O&F completion date.

Regardless of the approach used for entering the O&F completion date in WasteLAN, the Region also should notify the State in writing of the O&F date established to properly document when the remedy will be transferred to the State.

Does the ten-year LTRA period ever restart?

The ten-year LTRA period would not change or restart following the initial O&F determination. Adjustments to ground water restoration remedies are routine (e.g., following an optimization review) to ensure effective and

efficient operations. These adjustments would not impact or change the LTRA period.

C. Optimization Considerations During LTRA

EPA intends to transfer to States ground water and surface water restoration systems that are operating effectively and efficiently. Optimization reviews by an independent party are an important tool used to evaluate operating systems. The major questions that should be addressed during an optimization review include:

- Has an evaluation been conducted on the efficiency of extraction, treatment, and overall performance?
- Can adjustments be made to the extraction or treatment systems to reduce costs?
- Is the system making progress toward achieving restoration cleanup goals?
- Is the plume contained and contaminant migration under control?
- Are recovery wells properly located to maximize capture?
- What exit strategy will be used to guide decisions on when to shut down the ground water restoration system?
- Were any performance issues identified during the previous five-year review and have they been addressed?
- Do adjustments need to be made to the monitoring effort?

- Are system components outdated? Is there newer technology which would improve the efficiency/effectiveness of the system and reduce long-term costs?

In general, optimization reviews to verify remedy effectiveness and identify opportunities for cost savings should be conducted early in the LTRA period. In particular, this allows more time for construction and operation of an optimized system prior to transfer. If an optimization review is not conducted within the first few years of system operation, RPMs are encouraged to conduct the review and implement recommendations prior to transferring an LTRA project to the State.

During the LTRA period, expenditures for an optimization review, design and implementation of an optimized system are usually pipeline operations or ongoing remedial action expenses. RPMs should ensure that funding is identified and coordinate with the State to ensure the State provides its ten percent cost share. Where feasible, Regions are encouraged to coordinate the timing of any optimization reviews with five-year reviews.

D. Preparing for LTRA Transfer

State involvement in fund-financed ground water and surface water restoration projects can begin at different stages. For remedies where the State has assumed the lead role for remedial action under a cooperative agreement, the State may design and build the remedy, and then operate the system, with EPA funding, throughout the ten-year LTRA period. Where EPA maintains the lead for remedial action, EPA will likely operate the system throughout the LTRA period. In both cases, the State continues to provide ten percent of the cost during the LTRA period. States can assume the lead at any time during the LTRA period, but no later than at the end of the ten-year period.

This fact sheet is written from the perspective of ten years of EPA operations followed by transition to the State. However, the general principles would apply even if the State is the lead agency during the LTRA period.

Planning ahead for transfer from LTRA to O&M should start during Remedial Design (RD) of the system. Early preparation helps to:

- Clarify State financial and performance commitments,
- Ensure that adequate language is incorporated into the State assurances embodied in Superfund State Contracts (SSC) and Cooperative Agreements (CA), and
- Provide an opportunity for State input to system design, operation during the LTRA period, and for State-funded O&M after the transfer.

As discussed in the *Operation & Maintenance in the Superfund Program* fact sheet, the O&M Plan developed during Remedial Design (RD) stage is a critical component of the transfer process, and helps to ensure the proper transition of responsibility for O&M of fund-lead projects from EPA to the State. The O&M Plan should define the administrative, financial, and technical details and requirements for inspecting, operating, and maintaining the various components of a remedy. An O&M Plan for an LTRA project should generally contain the elements identified in **Exhibit 2**.

During the Remedial Action stage, major considerations should include updating the O&M Plan and encouraging State officials to visit the site during construction. The joint inspection and the O&F determination are also

Exhibit 2 – Typical O&M Plan Elements to Consider for LTRA Transfer

- Designation of the organizational unit of the State government responsible for O&M
- Identification of the availability of State funding mechanisms for O&M activities
- Milestone dates for State assumption of O&M responsibilities
- Criteria for determination of O&F
- Description and duration of O&M activities
- Summary of O&M staffing needs (including training and certification requirements)
- Summary of O&M performance standards
- Contingency plan for handling emergency and abnormal occurrences
- Safety requirements for O&M activities
- Equipment and material requirements
- Estimates of annual O&M costs
- Reporting requirements
- Conditions for O&M termination
- Description of site use and disposition of facilities following completion of O&M
- Modification of existing site health and safety plan (HASP) and quality assurance project plan (QAPP)
- Access and property issues
- Description of all required institutional controls

completed during the RA stage. During the LTRA period, the O&M Plan should be updated to reflect actual remedial activities. For LTRA projects, as well as all other projects, the State and EPA should have frequent discussions about the O&M Plan, the determination of O&F, the joint EPA/State inspection, the O&M Manual, and any facility, cost, or schedule changes. This early involvement would help to:

- C Provide adequate time for the State to prepare for transfer, including such components as bidding and securing contractor services, receiving training on plant operation and maintenance, and securing funding;
- C Allow the State adequate opportunity to participate in the evaluation of plant performance and efficiency; and
- C Allow the State to work through site access issues as needed.

Additional considerations are discussed in the *Operation & Maintenance in the Superfund Program* fact sheet.

E. Transition from LTRA to O&M

If cleanup goals have not been achieved upon completion of the ten-year LTRA period, the remedy transitions from LTRA into O&M. This O&M designation is made only to distinguish the funding from federal to State. It is not related to any operational change in the system. Once the cleanup goals have been met, either during or after the ten-year period, a follow-on monitoring component may be required, which also is defined as O&M. If cleanup goals are achieved at any time before the end of the ten-year LTRA period, the remedy may also transition to O&M, if appropriate.

Many issues need to be addressed before an LTRA project can be successfully transferred. **Exhibit 3** is a checklist of considerations that the Region and State can follow over the life of a project to minimize LTRA transfer issues.

Exhibit 3 – Checklist of LTRA Considerations During a Superfund Project

Project Phase	LTRA Considerations
Remedial Design	" Ensure that the RD statement of work includes development of an O&M Plan for LTRA; " Consult with the State to develop an O&M Plan for the selected remedy; and " Ensure signed SSC/CA includes language on the process for determining O&F date, EPA and State obligations, and disposition of real property.
Remedial Action	" Ensure that the RA statement of work and design specifications require training of O&M staff before the remedy is turned over; " Update O&M Plan; " Coordinate review and finalization of the O&M Manual with the State; " Draft the Interim RA Report at the completion of construction, including section on required O&M activities; " Encourage State officials to visit site during construction; " Conduct joint EPA/State inspection at completion of remedy construction; and " EPA and State make an O&F determination and document it in the Interim RA Report as well as in a letter to the State.
O&F through Year 6 of LTRA Period	" EPA (or State) operates system, makes adjustments, repairs, replacements, as appropriate; " Conduct a five-year review, consistent with the schedule for the site; " Consider an optimization review to ensure effective and efficient operation; and, " Strengthen communication with State (e.g., share performance and monitoring data, results of performance reviews, etc.).
Year 7 of LTRA	" EPA initially notifies State by letter of date of LTRA transfer; and " State should initiate funding requests for continued O&M after LTRA is complete.
Year 8 of LTRA (PLANNING AND PERFORMANCE REVIEWS)	" Revise O&M Plan as appropriate; " Continue to share cost and performance data and other technical data with State; " Review property transfer and site access requirements; " State begins staffing activities for O&M (e.g., hiring initiatives, procurement strategy and time line for contract support); " Identify equipment for repair/replacement; and, " Consider an optimization review, if not previously performed.
Year 9 of LTRA (IMPLEMENT SYSTEM CHANGES)	" EPA notifies State again by letter of date of anticipated transfer from LTRA to O&M so State can have ample time for budgeting O&M costs, agree on schedule and milestones; " Design/construct revisions to system, as required; " EPA (or State) operates system; " Revise all manuals, sampling plans, and monitoring plans; " Conduct second five-year review, consistent with the schedule for the site; and, " Prepare to transfer permits, warranties, certificates of occupancy, deeds, and other agreements.
Year 10 of LTRA (COMPLETE TRANSFER)	" State completes arrangements for conducting O&M services; " State personnel or contractor should observe operations and receive training on the treatment system; " Complete all transfer documents/arrangements; and " EPA sends final letter confirming transfer date and schedule for any remaining actions.
O&M Period	" State assumes responsibility for conducting O&M; " State provides progress reports to EPA as agreed; " State (or EPA) conducts subsequent five-year reviews; " State and EPA determine when cleanup goals have been achieved; and " State or EPA prepares final RA Report.

However, suggested actions may be completed in a shorter time period. Regions are encouraged to review and discuss LTRA transfer schedules with the States on a routine basis (e.g., during annual work planning meetings).

O&F through Year 6 of the LTRA Period

For the first 6 years of the LTRA period, major activities are those associated with routine system operations (e.g., operating the pump and treat system, performing required maintenance, evaluating the effectiveness of the MNA monitoring network, and conducting an appropriate level of monitoring to ensure system effectiveness). In addition, the RPM should review remedy performance, assess progress toward achieving goals, and conduct a five-year review consistent with the schedule for the site. An optimization review should be considered during this period.

Year 7 of the LTRA Period

During year 7 of the LTRA period, EPA should send the first notice of transfer to the State signator of the SSC. This notice should also provide State legislatures with at least two sessions to obtain needed funding after the LTRA period. An optimization review should be considered at this time if one has not been previously performed.

Year 8 of the LTRA Period

During year 8 of the LTRA period, detailed planning for the transfer of the ground water restoration system should begin. EPA intends to transfer to States, ground and surface water restoration systems that are operating effectively and efficiently. To accomplish this, specific actions should be taken prior to the transfer of an LTRA project to the State. The Region should meet with the State to define the process, clarify roles and responsibilities, and establish a schedule and milestones. Then, EPA should conduct a review of the treatment system, with State participation. The review should document the repairs or adjustments that will be corrected to

allow for the transfer after year 10. For example, EPA may need to replace remedy components that are obsolete, inefficient, or nearing the end of their useful life before transfer to the State. Follow-up actions should be completed to the extent possible prior to transfer to the State or as soon as possible thereafter. An optimization review should be considered at this time if one has not been previously performed.

Year 9 of the LTRA Period

During year 9, any changes required from the optimization review should be designed and constructed, and any required changes to the O&M Plan should be made. The State should also receive official notification, by letter, of the transfer date so there will be sufficient time for their required budgeting and contracting activities.

Year 10 of the LTRA Period

During year 10, EPA should continue to operate and maintain the LTRA in an effective and efficient manner making appropriate modifications and improvements. EPA should arrange, assist, or verify the transfer of title for all permits, warranties, access arrangements, lease agreements, easements, certificates of occupancy, and real property deeds. EPA generally will need to identify any equipment, vehicles or facilities it intends to remove at the time of transfer to allow the State an opportunity to obtain substitute equipment, vehicles, or facilities. EPA should also identify any equipment or property that it seeks to maintain title to and to participate in the disposal of any equipment no longer needed for the operation of the system. EPA should make revisions to any manuals or plans as necessary. EPA also should send another letter to the State confirming the date of transfer and providing a schedule for any remaining actions. By this time, the State should have completed its contracting activities and have a contractor in place to receive training on

the system.

To facilitate transition of the system from EPA to the State, the State should have its contractor observe and receive EPA training to operate the remedy and may jointly operate the system for the final month(s) before transition.

What documentation is used for transfer?

It is recommended that all agreements associated with the transfer of the ground water or surface water restoration system be presented in a letter to the file or to the record, signed by both EPA and the State. This letter should include the following as attachments:

- Updated O&M Plan (see Exhibit 2),
- O&M Manual,
- Remedial design documents, updated with as-built drawings,
- Remedial Action Reports,
- Long-term monitoring results,
- Site Inspection Reports,
- Transfer documents for all permits warranties, access arrangements, lease agreements, easements, etc., and
- Description of all required institutional controls.

F. EPA Oversight During O&M

As discussed in the *Operation & Maintenance in the Superfund Program* fact sheet, the RPM is responsible for assuring that O&M is performed by the State and that required progress reports are submitted to EPA.

Five-year reviews continue throughout the O&M period as long as waste is left on-site above levels that allow for unlimited use and unrestricted exposure. EPA will either conduct the five-year reviews or provide concurrence if the State conducts the subsequent five-year reviews.

EPA will provide funds for conducting five-year reviews; however the State assumes full responsibility for funding all actions associated with O&M at the site. Federal funds cannot be used for O&M activities.

G. Conclusion

This fact sheet focuses on key elements of the LTRA transfer process. Issues such as the achievement of cleanup goals and exit strategy are beyond the scope of this fact sheet but will be considered in future guidances. For additional information concerning the transfer of LTRA projects from EPA to State for O&M, please contact the appropriate Headquarters Regional Coordinator.

This fact sheet is available electronically at:

<http://www.epa.gov/superfund/action/postconstruction/index.htm>

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