

ARGONNE NATIONAL LABORATORY-WEST



**Final Draft
Argonne National Laboratory-West
LTS Transition Plan
from the
DOE Office of Environmental Management
to the DOE Office of Nuclear Energy**

Prepared for:

DOE-CH Long-Term Stewardship Pilot Project

**Planning Critical Elements of the Transition to Long-Term Stewardship
at Chicago Operations Facilities**

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Appendix A: Summary of Wastes Sites Requiring Long-Term Stewardship

ACRONYMS

AAO-W	DOE/Argonne Area Office-West
ANL-W	Argonne National Laboratory-West
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CY	Calendar Year
DOE	Department of Energy
DOE-CH	DOE-Chicago Operations Office
DOE-Idaho	DOE-Idaho Operations Office
D&D	Decontamination and Decommissioning
EBR-II	Experimental Breeder Reactor-II
EM	DOE Office of Environmental Management
EP	Environmental Programs
EPA	Environmental Protection Agency Region X
EPC	Experimental Breeder Reactor-II Plant Closure
ESH/QA	Environment, Safety and Health and Quality Assurance Oversight
FFA/CO	Federal Facilities Agreement/ Consent Order
FY	Fiscal Year
HWMA	Idaho Hazardous Waste Management Act
IDEQ	Idaho Department of Environmental Quality
IDHW	Idaho Department of Health and Welfare
INEEL	Idaho National Engineering and Environmental Laboratory
ISM	Integrated Safety Management
IWP	Industrial Waste Pond
LTS	Long-Term Stewardship
NCP	National Oil and Hazardous Substance Pollution Contingency Plan
NE	DOE- Office of Nuclear Energy
NPL	National Priorities List
O&M	Operation and Maintenance
O&M&M	Operation, Maintenance and Monitoring
OU	Operable Unit
PSO	Program Secretarial Office
RAOs	Remedial Action Objectives
RD/RA	Remedial Design / Remedial Action
RGs	Remediation Goals
RI/FS	Remedial Investigation / Feasibility Study
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
S&M	Surveillance and Monitoring
SRPA	Snake River Plane Aquifer
WAG	Waste Area Group

Long-Term Stewardship Transition Plan for Argonne National Laboratory-West

1. INTRODUCTION

This Transition Plan has been developed to identify the Long-Term Stewardship (LTS) activities that are to be transferred from the U.S. Department of Energy (DOE) Office of Environmental Management (EM) to the Argonne National Laboratory-West (ANL-W) site landlord, the DOE Office of Nuclear Energy (NE). This Transition Plan will provide details on the status of the current EM waste site remediation at ANL-W and the scope and schedule of activities that remain to be completed.

At ANL-W, the transfer of responsibility from EM to NE for completion of all remaining and ongoing environmental restoration activities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) is scheduled for FY 2003/2004. This Transition Plan will address the responsibilities of the parties for the completion of remedial activities at ANL-W waste sites. In particular, it will identify the administrative responsibilities that are necessary to provide an uninterrupted transfer of responsibilities from EM to NE, thereby minimizing impacts to the environmental remediation program at ANL-W.

The investigation and remediation of hazardous substance sites at ANL-W is regulated by the CERCLA and implemented through a Federal Facilities Agreement/Consent Order¹ (FFA/CO), which was negotiated by the agencies and signed in December 1991. The ANL-W Waste Area Group 9 (WAG 9) is one of ten Idaho National Engineering and Environmental Laboratory (INEEL) WAGs identified in the FFA/CO.

Eight areas at ANL-W have actual or threatened releases of hazardous substances. The ANL-W CERCLA Record of Decision² (ROD) document identifies five sites (containing the eight contaminated areas) for remedial action and an additional 33 release sites for "No Action" based on the risk to human health and the environment (see Appendix A, Table A-1). The eight areas requiring remedial action include the Sanitary Sewage Lagoons (ANL-04); Industrial Waste Pond, Ditch A, Ditch B, (all from ANL-01); Main Cooling Tower Blowdown Ditch (ANL-01A); Interceptor Canal-Canal and-Mound (sub-portions of ANL-09); and the Industrial Waste Lift Station Discharge Ditch (ANL-35). See Figure 1-1 below.

The transfer of responsibility discussed in this report does not affect the authorities under which cleanup is being performed. This Transition Plan addresses the responsibilities of both parties (EM and NE) should it be determined that additional remedial actions at closed sites are required. Such additional remedial actions may be required because of:

- ongoing monitoring of completed remedial actions indicates the action has failed or needs to be improved;
- environmental protection standards become more restrictive; or
- improved technologies are developed that would advance the management of residual contamination, thereby reducing the risk to surrounding populations.



Figure 1-1: Remedial Action Waste Sites

This Transition Plan addresses a commitment on the part of NE to continue pursuing the most effective and cost-effective means of reducing risk caused by residual contamination in waste sites at ANL-W. This effort is a requirement of the DOE Long-Term Stewardship (LTS) Program guidance³ but it is not a regulatory requirement for the ANL-W site. Such pursuit will require periodic reassessment of residual contamination and site conditions, and assessment of possible technologies to address the remaining concerns related to this contamination, namely monitoring of potential releases and containment or destruction of contaminants.

2. USE OF TERMS

Key terms used in this document are defined below.

Contaminated Facility – Any facility containing radioactive contamination, hazardous waste and/or hazardous chemical within components, structures or natural media (soil, groundwater or surface water).

Long-Term Stewardship – The set of activities needed to (1) ensure compliance with regulatory requirements, including inspection and monitoring, report preparation, performance assessment, document retention, and other required activities; (2) ensure effective operations and maintenance of any remedial action put in place to facilitate ongoing effectiveness of the remedial action; (3) initiate and maintain any institutional controls needed to ensure that sites with residual contamination are not inadvertently disturbed by on-site or off-site personnel; (4) retain all plans, reports, correspondence, and other records related to completed remedial actions; (5) periodically reassess completed remedial actions to ensure that the original remedial actions are still adequately protective of human health or the environment; and (6) develop and maintain contingency plans and procedures to respond to fires, structural collapse, flooding, wind damage, or other catastrophic events that could liberate and disperse contaminants and to detect and correct failures caused by long-term degradation of remedial systems.

No Action (NA) – The regulatory status of a unit that has been remediated by the removal of contamination (if characterization demonstrated that removal was necessary) to a level that permits other beneficial uses (unrestricted use) of the land. NA status for solid waste management units (SWMUs) is considered granted when the Environmental Protection Agency Region X (EPA) and the Idaho Department of Environmental Quality (IDEQ) issue a letter acknowledging that the remedial actions that resulted in the removal of contamination have been completed in accordance with the Record of Decision.

No Further Remediation (NFR) – The regulatory status of a unit for which all anticipated remedial construction actions, including physical construction, site restoration, and equipment start-up, have been completed to the satisfaction of the overseeing authorities (the EPA, IDEQ, and DOE in the case of SWMUs and DOE in the case of non-SWMU voluntary cleanup projects and Decontamination and Decommissioning (D&D)), and all required inspections, operations, maintenance of operational remedies and engineered barriers, and institutional controls are in place. Residual contamination and waste materials may or may not be present at such facilities;

however, the remedial actions completed will have reduced the risk associated with any such residual contamination to levels acceptable to the overseeing authorities.

Ongoing remediation – A set of activities that need to continue after all anticipated remedial action construction and start-up of operational remedies have been completed but where residual contamination levels above those necessary to achieve NA status are present. These activities are required at these sites to prevent the release of the contaminants, or to remove or destroy the contaminants. These activities include inspection and periodic maintenance of engineered barriers such as paint over contaminated concrete; or the operation and maintenance of operable remedies such as phytoremediation systems, building drainage systems, or similar ongoing efforts. Routine environmental monitoring may also be required. Such efforts would be required until the contaminant concentrations are reduced to less than the remediation objectives (or equivalent criteria for non-SWMUs) and the overseeing authority approves the discontinuation of such actions.

Waste site – Any SWMU that underwent investigation under the Federal Facility Agreement/Consent Order or other interagency agreements.

3. ROLES AND RESPONSIBILITIES

Defining key roles and responsibilities of EM and NE are necessary to ensure a smooth transition of responsibility and effective management of the LTS Program following the transfer.

3.1. PROGRAM MANAGEMENT

- A. Following the transfer, NE shall fund and conduct all activities related to routine LTS of the former EM waste sites, including the following elements:
 - Budget programming and allocation;
 - Compliance with all applicable regulatory requirements contained in the CERCLA ROD, the Resource Conservation and Recovery Act (RCRA) Part B Permit, DOE Orders, and other regulations;
 - Operations, maintenance, monitoring, surveillance, and reporting as specified in approved plans and other documents;
 - INEEL land use controls to prevent inadvertent disturbance of closed sites;
 - Information management;
 - Emergency response and corrective action for performance deficiencies;
 - Periodic performance reviews and optimization studies;
 - Final site closeout when remedial actions are completed; and
 - Stakeholder participation in planning and implementing the LTS Program.

- B. NE shall request sufficient appropriations in the annual Energy and Water Development Appropriations Bill for all activities related to long-term stewardship of LTS units.

- C. ANL-W shall prepare a LTS Plan describing all activities necessary to adequately meet the requirements of LTS for waste sites. The LTS plan shall be prepared in conformance with guidance provided by DOE-Argonne Area Office (AAO).
- D. EM shall support the preparation of the ANL-W LTS Plan by providing whatever information, assistance and funding is needed to generate a complete and accurate LTS Plan prior to the transfer of responsibilities to NE.

3.2. OPERATIONS AND OVERSIGHT

- NE shall ensure that the performance of the remedial systems in place are monitored to ensure that they are working as designed and determine if modifications or improvements of these actions are required. Extensive reviews of the performance of these systems shall be completed at least every 5 years, as required by the ANL-W CERCLA ROD. The need for repairs, replacement or minor improvements to completed actions shall be identified and implemented as part of routine maintenance.
- NE shall ensure that ongoing remedial action sites are monitored to determine when the final remedial action objectives (RAOs) have been met and the remedial actions can be terminated (removal of remedial systems such as wells, pumps, and phytoremediation plants). Once RAOs have been met, the operational remedies shall be shut down and the site closed out in accordance with EPA, IDEQ and DOE requirements. All efforts to plan, implement, and gain regulatory agency approval of final closeout activities at these units will be the responsibility of NE.
- ANL-W shall provide to NE the location of the following information:
 - survey information;
 - descriptions of the final or current conditions of each unit;
 - decision documents, including plans and reports submitted to regulatory agencies and correspondence with the agencies;
 - contractual documentation; administrative records; technical records; financial records; schedules and all other pertinent project documents and supporting information.
- EM shall assume no responsibility for ongoing remediation of transferred waste sites, unless additional remedial actions including major repairs or replacements of existing remedial systems are identified by NE and authorized by the EM Program.
- Upon receipt of a proposal from NE to conduct additional remedial actions at a transferred site that is beyond the scope of the site when transferred, EM shall review the NE proposal and determine whether the work is to be funded by the EM Program. NE shall continue to have responsibilities for completing the remedial activities.

4. ONGOING REMEDIAL ACTIONS

ANL-W evaluated 38 waste sites in the risk assessment and 33 waste sites were designated as “No Action” and are classed as unrestricted use sites. The 5 waste sites (see Table 4-1) that were retained for remedial action are the IWP (ANL-01), Main Cooling Tower Blowdown Ditch (ANL-01A), Sanitary Sewage Lagoons (ANL-04), Interceptor Canal (ANL-09), and Industrial Waste Lift Station Discharge Ditch (ANL-35). Table 4-2 provides the current status of EM waste sites at ANL-W. Table 4-3 identifies the institutional controls that have or will be implemented as identified in the CERCLA ROD.

Table 4-1: Remedial Action Sites

Waste Site	Contaminated Area
ANL-01	Industrial Waste Pond
	Ditch B (open portion)
	Ditch A
ANL-01A	Main Cooling Tower Blowdown Ditch
ANL-04	Sewage Lagoons
ANL-09	Interceptor Canal- Mound
ANL-09	Interceptor Canal-Canal
ANL-35	Industrial Waste Lift Station Discharge Ditch

The following sections discuss the expected final states of the EM sites located at ANL-W that are expected to transfer to NE

4.1. UNRESTRICTED USE WASTE SITES

- Waste sites that were closed (administratively) through EPA Region X and the IDEQ) approval request by demonstrating that contamination does not exist above applicable action levels. These are “No Action” sites
- Waste sites for which remedial actions were completed through removal (excavation) or placement of intrusion barriers (i.e., concrete) resulting in an unrestricted use designation. These are “No Further Remediation” sites.

4.2. RESTRICTED USE WASTE SITES

- Waste sites for which active remedial actions (i.e., waste soil excavation or phytoremediation removal actions) have been completed but operation, maintenance and monitoring(O&M&M) are ongoing because of the presence of radioactive contamination above the RAOs. Institutional controls are or will be required (see Table 4-2). These sites may be either “No Further Remediation” or may be “On-going Remediation” sites

Table 4-2: Waste Sites Remediation Requirements

SWMU No.	Area Description	Remediation Activity ⁽¹⁾	Remediation Status	Estimated or Actual completion of Remedial Activities
ANL-01	Industrial Waste Pond	P & D	Begin in FY 2003	FY 2010 (P); FY 2108 (D)
	Ditch A	P	ongoing	FY 2002
	Open portion Ditch B	E	(2)	FY 1999
ANL-01A	Main Cooling Tower Blowdown Ditch (East section)	E	(2)	FY 1999
	Main Cooling Tower Blowdown Ditch (West section)	P	ongoing	FY 2002
ANL-04	Sewage Lagoons	P	Begin in FY 2033	FY 2049
ANL-09	Interceptor Canal-Canal	D	ongoing	FY 2087
	Interceptor Canal-Mound	P & D	ongoing	FY 2002 (P); FY 2104 (D)
ANL-35	Industrial Waste Lift Station Discharge Ditch	P	ongoing	FY 2002

(1) E= Excavation; P=Phytoremediation; D=Decay by natural attenuation. (2) Final closeout report not submitted to EPA/IDEQ and/or approved.

Table 4-3: Institutional Controls Required by the ROD

SWMU	Area Description	Timeframe of Land Use Restrictions (from 1999)	Review Period	Institutional Controls
ANL-01	Industrial Waste Pond	Max of 110 years is expected	5 year	Access restrictions (e.g. fences, posted signs, permanent markers) to prevent residential intrusion. Periodic inspection & maintenance to ensure integrity of institutional controls.
	Ditch B (open portion)	Completed excavation in FY99	5 year	Maintain existing fencing and access controls until remedy is complete.
	Ditch A	Expected to be 5-7 years	5 year	Maintain existing fencing and access controls until remedy is complete.
ANL-01A	Main Cooling Tower Blowdown Ditch (West)	Expected to be 5-7 years	5 year	Maintain existing fencing and access controls until remedy is complete
ANL-01A	Main Cooling Tower Blowdown Ditch (East)	Completed excavation in FY99	5 year	Maintain existing fencing and access controls until remedy is complete.
ANL-04	Sewage Lagoons	Max of 50 years expected	5 year	Maintain existing fencing and access controls until remedy is complete. Maintain water in lagoons to prevent risk to ecological receptors (burrowing mammals) until remedy is complete.
ANL-09	Interceptor Canal- Mound	Max of 105 years is expected	5 year	Access restrictions (e.g. fences, posted signs, and permanent markers) to prevent residential intrusion. Periodic inspection & maintenance to ensure integrity of institutional controls.
ANL-09	Interceptor Canal-Canal	Max of 88 years is expected	5 year	Access restrictions (e.g. fences, posted signs, and permanent markers) to prevent residential intrusion. Periodic inspection & maintenance to ensure integrity of institutional controls.
ANL-35	Industrial Waste Lift Station Discharge Ditch	Expected to be 5-7 years	5 year	Maintain existing fencing and access controls until remedy is complete.

- Waste sites where active remedial actions are ongoing or planned. Remedial actions for all the EM sites are not expected to be in place prior to transferring responsibility to NE. These sites are “On-going Remediation” sites

It's anticipated that by the end of FY 2002 phytoremediation activities (the selected remedy) for three of the five ANL-W waste sites (ANL-01A, ANL-09, ANL-35) will be completed and long term monitoring (i.e., natural attenuation) instituted for ANL-09. In FY 2002 verification sampling will be performed to validate that the selected remediation remedy is functioning as designed.

The major components of the selected remedy for ANL-W, as of the end of FY 2002, that have been completed, partial completed or in need of completing are:

Major Components Completed

- Completed phytoremediation workplan for field-scale testing.
- Conducted field-scale phytoremediation test of selected plant species at the sites that pose unacceptable risks.
- Determined the effectiveness and implementability of phytoremediation based on results of field-scale testing.
- Completed three seasons of phytoremediation planting and harvesting.

Major Components to be Completed

- Collect soil and plant samples to be used to validate the completion of phytoremediation on three sites. Scheduled for summer of FY 02.
- Harvesting, compacting, and disposing of the above- and below-ground plant matter that will be sent to a permitted landfill.
- Continuing the planting/harvesting process for phytoremediation. This process would continue until RAOs are attained for the:
 - ✓ Industrial Waste Pond, and
 - ✓ Sanitary Sewage Lagoons
- Installing access restrictions, consisting of fences, bird netting, and posting warning signs.
- Reviewing the remedy no less than every five years from the signature of the ROD until the year 2098
- Implementing DOE controls that limit residential land use for at least 100 years (through FY 2098).

Below is a brief description of the waste sites that will require future remediation and implementation of institutional controls. A detailed description of these waste sites can be found in reference 2.

Industrial Waste Pond

The IWP (ANL-01) is an unlined, approximately 1.2-ha (3-acre) evaporative seepage pond fed by the Interceptor Canal and various industrial wastewater and stormwater drainage ditches. The pond was excavated in 1959, obtained a maximum water depth of about 4 m (13 ft) in 1988, and is still in use today. The pond is expected to go dry in 2002 or 2003 with the termination of cooling water discharges from the Sodium Process Facility. Contaminants of concern are cesium-137, chromium III, mercury, selenium, and zinc. This waste site will require future remediation (phytoremediation) and institutional controls because of radioactive contamination.

Sewage Lagoons

The sanitary Sewage Lagoons (ANL-04) are located north of the ANL-W facility. Two lagoons were constructed in 1965, with a third built later in 1974. The three sanitary sewage lagoons cover approximately two acres. The three lagoons dimensions are; (1) 150 x 150 x 7 feet, (2) 50 x 100 x 7 feet, and (3) 125 x 400 x 7 feet. The lagoons receive all sanitary wastewater originating at ANL-W, with the exception of the Transient Reactor Test Facility, Sodium Process Facility, and the Sodium Components Maintenance Shop. Sanitary waste discharged is from rest rooms, change facilities, drinking fountains, and the Cafeteria. The three lagoon bottoms are sealed with a 0.125 to 0.25-inch layer of bentonite and are situated approximately 640 feet above the groundwater. The Sewage Lagoons are still in use and will continue to be used for disposal of sanitary wastes for an estimated 34 years (until 2033). The contaminant of concern is mercury. This waste site will require future remediation (phytoremediation) and institutional controls because of radioactive contamination.

Interceptor Canal-Canal

The canal portion was used to transport industrial wastewater to the IWP and to divert spring runoff and stormwater around the ANL-W facility for flood control. Between 1962 and 1975, two 4-in. pipes transported liquid industrial wastes and cooling tower effluent, to the Interceptor Canal. One line transported cooling tower blowdown water and regeneration effluent while the other line originated at the Industrial Waste Lift Station (Bldg. 760) and transported industrial wastes. Liquid radioactive wastes were discharged through the same line as the industrial wastes, but they were diverted to the EBR-II Leach Pit. Discharge of industrial wastes was discontinued in 1973, and discharge of cooling tower blowdown water to the canal was discontinued in 1975. The canal still serves as a diversion ditch for spring runoff and stormwater. The contaminant of concern is cesium-137. This waste site will require institutional controls because of radioactive contamination.

Interceptor Canal-Mound

During clean out operations at the Interceptor Canal in October 1969, abnormal background radioactivity was detected. Additional radiation surveys in 1969, 1973, and 1975 indicated that the entire length of the Interceptor Canal was contaminated. Approximately 1,810 yd³ of this soil remains in a 500 ft long mound located immediately to the west of the canal. This mound of soil is the ANL-09-Interceptor Canal-Mound and was investigated as part of the Remedial

Investigation/Feasibility Study⁴ (RI/FS) process. The mound is approximately 500 ft. long 20 ft. wide and 4 ft. deep. The contaminant of concern is cesium-137. This waste site will require institutional controls because of radioactive contamination. Completion of phytoremediation is anticipated to FY 2002.

5. COMPLETION OF ONGOING REMEDIAL ACTIVITIES

Upon achievement of RAOs a final CERCLA Remedial Action (RA) completion report documenting that the cleanup activities took place under remedial authority and that the cleanup standards presented in the ROD were met is required to be prepared. In FY 2003, a request for closeout of sites ANL-01 (Ditches A and B), ANL-01A, and ANL-35 and the 33 “No Action” waste sites under CERCLA is planned. The activities necessary to close out the CERCLA waste sites are identified in Table 5-1.

Table 5-1: CERCLA Closeout

Step	Activity
1	Final RA completion report submitted to EPA/IDEQ for review and comment.
2	RA completion report acceptance letter received from EPA/IDEQ.
3	Final closeout report prepared and submitted to EPA/IDEQ for review.
4	EPA/IDEQ approval of final closeout report received.

6. TRANSFER CRITERIA

This section describes the set of criteria that define when remedial actions for a given unit are in a suitable condition for transfer to the LTS Program. The criteria include regulatory and administrative factors as well as technical factors. This document was prepared with the assumption that all the units in Table A-1 (Appendix A) will satisfy the acceptance criteria discussed here and will be transferred to NE in FY 2003/2004. It is possible, however, that some of the criteria for specific units may not be met on October 1, 2003.

- (a) All planned remedial construction activities must be complete (soil removed, treatment method validated or treatment systems installed, wells installed, etc.).
- (b) An accurate inventory of the documentation contained in the Administrative Record regarding the completed actions shall be transmitted to NE. This inventory, along with storage locations shall include:
 - Construction reports
 - Soil boring logs
 - Well completion reports
 - Analytical data reports
 - Design drawings and specifications
 - Operation and maintenance manuals

- (c) Site restoration following the remedial actions must be complete (e.g., excavations filled and the site restored and the area left in a safe condition). Final conditions may be documented by photographs, topographical maps, engineering drawings, or other means.
- (d) Remedial systems shall be constructed as designed, start-up completed, and equipment properly maintained and in stable operation, meeting all applicable performance criteria. Records describing the past performance history, the system start-up process, and operation up until the point of transfer, shall be provided to NE, upon request.
- (e) All remedial action documentation must be complete and approved by the EPA, IDEQ and DOE, as applicable. Any unresolved regulatory issues, pending determinations, incomplete documentation or other regulatory issues shall be documented and discussed with NE prior to the transfer. Computer files of electronic versions of these documents, where such exist, shall be provided to NE, if requested
- (f) Site conditions following completion of remedial actions shall be documented to the extent necessary to understand and manage the residual risks present at each unit. Adequate documentation describing the site conditions shall be provided to NE and shall include:
 - Final site topography, including precise location information for features such as waste burial areas, roadways, fences, structures, underground and aboveground utilities, surface elevations and contours, property lines, right-of-ways, and other pertinent information. Such information shall extend far enough away from the site to identify the location of the nearest human receptors and sensitive ecological areas.
 - Precise location of contaminated regions or buried waste material (horizontal and vertical extent).
 - Location of groundwater under the site, including depth, velocity of groundwater, direction of groundwater movement, and the nearest consumer of the groundwater or aquifer discharge point.
 - Precise location of monitoring points, such as groundwater monitoring wells, surface water sampling locations, or leachate sampling points.
 - Precise location and extent of remedial systems, including engineered barriers, warning signs and groundwater extraction wells and associated piping and control systems.
 - Characterization of the nature and extent of residual contamination and likely fate of this residual contamination.
 - Identification of the nature and degree of uncertainty associated with the characterization of residual contamination.
 - Basis for NA or NFR determination, including remediation criteria used, assumptions used to select those criteria and maximum residual contaminant concentrations.
- (g) Operation and maintenance requirements shall be fully described and communicated to NE through the transmission of up-to-date operation and maintenance manuals or other

documents. Maintenance logs, inspection logs, and blank forms, and inspection and maintenance schedules shall also be provided, upon request from NE. A cost estimate for operation and maintenance activities shall be included in the Baseline.

- (h) All permits, work plans, and other regulatory vehicles describing regulatory requirements shall be accurate and up to date and a description of these documents provided to NE.
- (i) Emergency response and contingency planning shall have been completed. Such planning includes identification of possible failure scenarios and descriptions of actions that need to be taken to mitigate any hazard from an unplanned catastrophic failure or gradual degradation of the remedial systems.
- (j) Identification of areas where on-site or off-site land use restrictions or other institutional controls are needed and the nature of these restrictions and controls.
- (k) Agreements with off-site stakeholders, such as the Shoshone Bannock Tribe, should be finalized.
- (l) ANL-W shall prepare a LTS Program Baseline for review and approval by EM, NE, and prior to the transfer. The Baseline shall describe the technical scope, provide the annual funding requirements for LTS activities and provide a schedule for these activities.
- (m) EM shall commit sufficient funding for the LTS Program in FY 2003 and future years until the transition of ANL-W EM waste sites to NE has been completed.
- (n) NE shall commit sufficient funding for the LTS Program in FY 2004 (if transition has been completed), in accordance with the Baseline, and shall commit to provide future funding in accordance with the Baseline.
- (o) ANL-W shall identify the organizational structure of the LTS Program and identify the means of assuring that an adequate number of qualified ANL-W personnel are committed to the program to assure its success. ANL-W shall identify a means of ensuring that the funds allocated to the LTS Program are efficiently utilized for the activities for which they are intended.

7. TRANSITION SCHEDULE

The transfer for all units that meet the acceptance criteria is scheduled to occur by October 1, 2003. At that point, all remaining remedial action requirements for these waste sites will transfer from EM to NE. Units that do not meet the criteria shall remain the responsibility of EM until the criteria are met or a plan is put in place to ensure that they are met in an expeditious manner and NE accepts the plan. In addition, all of the DOE-mandated requirements of the LTS Program, which extend beyond the current regulatory requirements, will be the responsibility of NE.

To prepare for this transfer, several activities will need to be completed in FY 2003. These activities are provide in Table 7-1

Table 7-1: Transition Activities Schedule

DOE-AAO provides guidance on LTS Requirements	October 1, 2002
Draft LTS Plan (including Baseline) completed	January 31, 2003
Draft Memorandum of Agreement	March 1, 2003
LTS Plan finalized	April 30, 2003
LTS Plan and Baseline approved by DOE	July 31, 2003
ANL-W LTS organization established	August 29, 2003
Final Memorandum of Agreement	September 1, 2003
Transition Completed	October 1, 2003

Within 90 days of the transfer (January 30, 2004), all of the documents and other information required under the acceptance criteria shall be transferred to the ANL-W LTS Program. This transfer may not require physical movement of all documents but may constitute a conveyance of information regarding the locations of archived records and procedures needed to recall archived material. Future stewardship responsibility for these documents shall be transferred to the LTS Program.

To ensure adequate funding for the LTS Program, ANL-W and NE shall have requested the funding far enough in advance that adequate funds, in accordance with the approved Baseline, will be available at the start of the LTS Program in October 2003.

8. RE-NEGOTIATION TRIGGERS

The various agreements and commitments described in this plan are based on certain assumptions and understandings of site conditions and future LTS requirements. The funding needs and technical requirements are also based on a similar set of assumptions and understanding. While some variation from these assumptions and understanding can be handled in the normal course of managing this program, major deviations from these assumed conditions are likely at some point in the LTS Program. Should conditions develop that are significantly different than the conditions at the time of transfer, some of the agreements and commitments in this document may need to be revised. The following is a list of criteria that include a number of possible conditions that may trigger re-negotiation of these agreements:

- Major process failure of a remedial system even though the system was operating as designed and properly maintained;
- Discovery of previously unknown contamination at a site that was transferred requiring substantial remediation and long-term stewardship requirements;
- Changing DOE expectations for the LTS Program that involve transferred waste sites;
- Changing cleanup standards of former EM waste sites.

The occurrence of one of more of these triggers would result in modification of the LTS Plan and Baseline. In addition, if the consequences of the event are beyond the scope of the LTS Program to resolve, requests for the assistance of EM or other agencies may be generated. This assistance

could range from additional funding or technical assistance, to complete delegation of the response activity to EM or the other agency.

If the scope of modifications or improvements is beyond that of routine maintenance, NE shall prepare a request for funding to be submitted to the EM Program or other potential funding source. The scope shall adequately identify the necessary modification and why the modification falls under the re-negotiation trigger requirements. The management and implementation of any such modification will remain with the landlord, however, funding maybe provided by EM or other funding sources.

REFERENCES

- (1) INEEL Federal Facility Agreement/Consent Order (FFA/CO), December 1991
- (2) ANL-W, *Final Record of Decision*, Doc. No.W7500-0000-ES-04, September 1998
- (3) DOE, *Long Term Stewardship Plan Guidance*, Working Draft, April 17, 2001
- (4) *Comprehensive Remedial Investigation/Feasibility Study for Argonne National Laboratory-West Operable Unit 9-04 at the Idaho National Engineering Laboratory (Final)*, Doc. No.W7500—0549-ES-02, October 1997.

**Appendix A: Summary of Wastes Sites Requiring Long-Term
Stewardship**

Table A-1: Summary of Wastes Sites Requiring Long-Term Stewardship										
SWMU No.	Description	Human Health or Ecological Risk		Actual or Expected End State	Residual Contamination	Inspection	Operation	Maintenance	Monitoring ⁽²⁾	Institutional Controls
		HH	E							
Sites Requiring Long-Term Operations and Maintenance and/or Institutional Controls										
ANL-01	Industrial Waste Pond	X	X	NFR ⁽¹⁾	Hazardous Constituents (Cr-III, Hg, Se, Zn) Radiological Constituent (Cs-137)		X		X	X
ANL-04	Sewage Lagoons		X	NFR	Hazardous Constituent (Hg)		X	X	X	X
ANL-09	Interceptor Canal-Canal	X		NFR	Radioactive Constituent (Cs-137)				X	X
ANL-09	Interceptor Canal-Mound	X		NFR	Radioactive Constituent (Cs-137)				X	
Sites Requiring Only Information Management										
ANL-01	Ditch A		X	NFR	Hazardous Constituent (Hg)					
ANL-01	Open portion Ditch B		X	NFR	Hazardous Constituents (Cr-III, Zn)					
ANL-01A	Main Cooling Tower Blowdown Ditch		X	NFR	Hazardous Constituents (Cr-III, Hg)					
ANL-35	Industrial Waste Lift Station Discharge Ditch		X	NFR	Hazardous Constituent (Ag)					
ANL-01	Buried portion Ditch B			NA ⁽²⁾						
ANL-01	Ditch C			NA						
ANL-05	ANL Open Burn Pits #1			NA						
ANL-05	ANL Open Burn Pits #2			NA						
ANL-05	ANL Open Burn Pits #3			NA						
ANL-08	EBR-II Leach Pit (Radioactive)			NA						
ANL-10	Dry Well between T-1 and ZPPR Mound			NA						
ANL-11	Waste Retention Tank			NA						
ANL-12	Suspect Waste Retention by 793			NA						
ANL-14	Septic Tank and Drain Fields (2) by 753			NA						
ANL-15	Dry Well by 768			NA						
ANL-16	Dry Well by 759 (2)			NA						
ANL-17	Dry Well by 720			NA						
ANL-18	Septic Tank and Drain Field by 789			NA						
ANL-19	Sludge Pit West of T-7 (Imhoff Tank)			NA						
ANL-20	Septic Tank and Drain Field by 793			NA						

Table A-1: Summary of Wastes Sites Requiring Long-Term Stewardship										
SWMU No.	Description	Human Health or Ecological Risk		Actual or Expected End State	Residual Contamination	Inspection	Operation	Maintenance	Monitoring ⁽²⁾	Institutional Controls
		HH	E							
Sites Requiring Only Information Management (continued)										
ANL-21	TREAT Suspect Waste Tank and Leaching Field (Non-Radioactive)			NA						
ANL-22	TREAT Septic Tank and the current Leaching Field			NA						
ANL-23	TREAT Seepage Pit and Septic Tank West of 720			NA						
ANL-24	Lab and Office Acid Neutralization Tank			NA						
ANL-25	Interior Building Coffin Neutralization Tank			NA						
ANL-26	Critical Systems Maintenance Degreasing Unit			NA						
ANL-27	Plant Services Degreasing Unit			NA						
ANL-28	EBR-II Sump			NA						
ANL-29	Industrial Waste Lift Station			NA						
ANL-30	Sanitary Waste Lift Station			NA						
ANL-31	Industrial/Sanitary Waste Lift Station (Ind.Side Not Used)			NA						
ANL-32	TREAT Control Bldg. 721 Septic Tank and Leach Field			NA						
ANL-33	TREAT Control Bldg. 721 Septic Tank and Seepage Pit			NA						
ANL-34	Fuel Oil Spill by Building 755			NA						
ANL-36	TREAT Photo Processing Discharge Ditch			NA						
ANL-53	Cooling Tower Riser Pits			NA						
ANL-60	Knawa Butte Debris Pile			NA						
ANL-61	EBR-II Transformer Yard			NA						
ANL-61A	PCB-contaminated soil (Adjacent to ANL-61)			NA						
ANL-62	Sodium Boiler Building (766) Hotwell			NA						
ANL-63	Septic Tank 789-A			NA						
(1) NFR - Sites that require no further remedial actions unless anticipated use changes, but will require some type of ongoing operations, inspection, or maintenance										
(2) No Action (NA) - Sites that are unrestricted. LTS responsibilities include groundwater monitoring for modeling validation through 2018 and/or record keeping.										