7.0 PAST PRACTICES PROCESSES

7.1 INTRODUCTION

This section has the following five purposes.

- Describe the processes that are common to both CPP units and R-CPP units (Section 7.2).
- Describe the steps to be followed if the past-practice units at a given operable unit are to be managed through the CERCLA process (Section 7.3).
- Describe the steps to be followed if the past-practice units at a given operable unit are to be managed through the R-CPP unit process (Section 7.4).
- Describe the process for setting cleanup standards for any CPP or R-CPP remedial action (Section 7.5).
- Describe the role of other Federal agencies in the investigation and remedial action processes (Sections 7.6 and 7.7).

Numerous waste management units have been identified within the boundaries of the Hanford Site. Most past-practice units are located in two general geographic areas as identified by the DOE (the 100 and 200 Areas). Other past-practice units are located in the 300, 1100 and other areas of the Hanford Site.

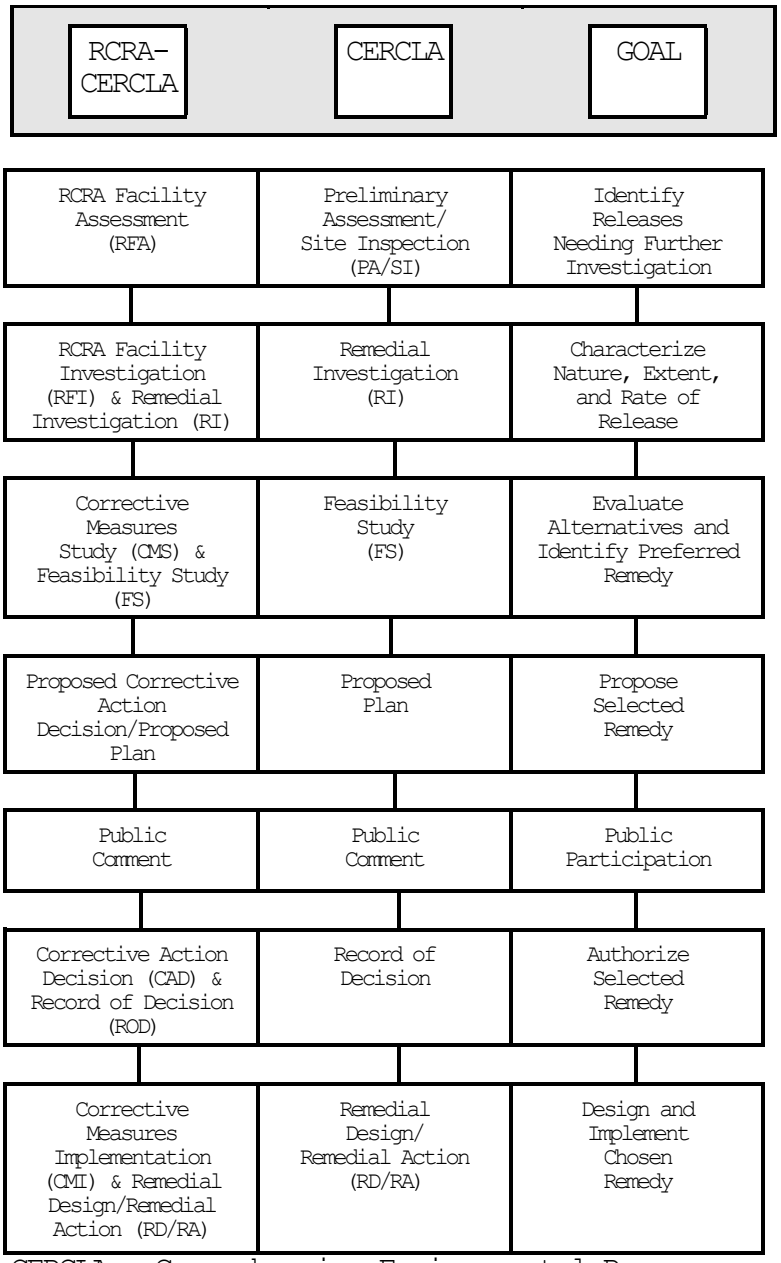
The 100, 200, 300, and 1100 Areas were identified as aggregate areas for inclusion of the Hanford Site on the CERCLA NPL. Figure 7-1 reflects these geographic areas at the Hanford Site. Each of these areas has a unique environmental setting and waste disposal history. The four aggregate areas were proposed for inclusion on the NPL on June 24, 1988, and were placed on the NPL on November 3, 1989 (54 FR 41015, October 4, 1989). The 1100 Area has since been remediated and deleted from the NPL (61 FR 51019, September 30, 1996). In addition, portions of the 100 Area underwent partial deletion (63 FR 36861, July 8, 1998). The remaining past-practice units from other areas have been assigned to operable units within one of the four aggregate areas for the purpose of investigation and subsequent action. Any future units that may be identified will also be assigned to operable units within an aggregate area.

Cleanup of past-practice units will be conducted pursuant to either the CERCLA process (Section 7.3) or under both RCRA and CERCLA processes (Section 7.4). Figure 7-2 highlights the major steps involved in both the CPP and R-CPP programs and indicates how each of these steps is related to a comparable step in the other program. It shows that the steps are functionally equivalent. Accordingly, the investigative process at any operable unit can proceed under either the CPP or the R-CPP program.

In accordance with Section 3.1, and discussed in Section 8, the parties may elect to disposition facilities (as the term "facility" is defined in Section 8) outside of Section 8.0 requirements and include the disposition of

facilities under the past-practice processes. Such actions will proceed under the CPP Program.

Agregate Areas.



CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

RCRA = Resource Conservation and Recovery Act

Note: Interim response actions or interim measures can be performed at any point in the remedial action/corrective measure process.

Figure 7-2. Comparison of Joint Resource Conservation and Recovery Act Corrective Measure and Comprehensive Environmental Response, Compensation, and Liability Act Remedial Action Process with that of CERCLA alone.

7.2 PRELIMINARY PROCESSES

Section 5.4 describes the rationale for managing operable units under either the CPP or the R-CPP category. The following processes apply to all past-practice units, regardless of whether they are classified as R-CPP or CPP units.

7.2.1 Site-wide Scoping Activity

An ongoing scoping activity will be conducted on a site-wide basis to maintain a current listing of waste units and their associated operable unit. The vehicle for documentation of this activity will be the Waste Information Data System (WIDS). The WIDS, as described in Section 3.5, and Appendix C of this Action Plan will be updated as additional information becomes available.

Although initial operable unit boundaries have been identified (Appendix C), the site-wide scoping activity may reveal additional or new information that could impact the designation of individual units within operable units or the priority in which operable units will be managed. Any such changes will require the written concurrence of the assigned executive managers for the DOE and the affected lead regulatory agency. If both EPA and Ecology are affected by this action, the written concurrence of both agencies will be required in accordance with the modification procedures described in Section 12.2.

The site-wide scoping activities will not impact the schedule of any other activities that are shown on the work schedule (Appendix D).

7.2.2 Operable Unit Scoping Activity

The operable unit scoping activity will be used to support the initial planning phase for each RI/FS (or RFI/CMS). Such activity and planning will result in an overall management strategy for each operable unit. In some cases, the operable unit management strategy may include facility (as defined in Section 8) dispositioning activities which will be integrated with this process. Canyon buildings on the Central Plateau are grouped with associated waste sites into canyon area operable units, defined in Appendix C, for disposition under the CPP program. The DOE shall assemble and evaluate existing data and information about the individual waste management units within each operable unit. The data and information obtained during each operable unit scoping activity will be used to support the logic for the RI/FS (or RFI/CMS) work plan and, therefore, will be submitted as part of each work plan.

This scoping activity is not intended to be a mechanism for generation of new information except for site survey and screening activities described in Section 7.3.2, but a thorough and complete evaluation of existing data. The schedule for submittal of the work plans, as specified in the work schedule (Appendix D), allows time for inclusion of the scoping activity.

The following is a list of specific scoping activities that will be addressed in each RI/FS (RFI/CMS) work plan:

- Assessment of whether interim response actions (IRA) or interim measures

(IM) may be necessary. Such assessments will be documented as part of the work plan and may result in IRA or IM proposals

- Assessment of available data and identification of additional data needs
- Identification of potential ARARs (see Section 7.5)
- Identification of potential remedial responses.

7.2.3 Response to Imminent and Substantial Endangerment Cases

In the event that a situation is determined by the lead regulatory agency to represent an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance or hazardous waste or solid waste at an operable unit, the lead regulatory agency may require the DOE to immediately initiate activities to abate the danger or threat. CERCLA, RCRA and the HWMA all include provisions to quickly respond to such situations. If the operable unit is being managed under the CPP procedures, abatement in accordance with Section 104 of CERCLA and the applicable sections of the National Contingency Plan (NCP) (40 CFR Part 300) is preferred. If the operable unit is being managed under the R-CPP procedures, the lead regulatory agency will choose the authority (RCRA and/or CERCLA) under which to address the imminent and substantial endangerment. If the operable unit has not yet been assigned to either the CPP or R-CPP process, the EPA and Ecology will jointly choose an authority to address the imminent and substantial endangerment and will assign a lead regulatory agency to oversee DOE's efforts in completing the project.

The DOE may voluntarily submit a proposed method for abatement to the lead regulatory agency at any time. In cases involving a proposed method for abatement, the lead regulatory agency must approve the DOE's proposal prior to initiation of field work. The final selection of remedy for an abatement action shall be consistent, to the extent practicable, with the final selection of remedial action (for CPP units) or corrective measures and remedial action (for R-CPP units) anticipated for the unit(s).

To expedite the cleanup process, neither the specified abatement method nor the proposal for abatement will be subject to the public comment process, except as required by law. However, the public will be kept informed of the status of the abatement process through other means as described in Section 10.0. After completion of all required abatement activity, the routine RI/FS or RFI/CMS process will be implemented, or continued, in accordance with the work schedule (Appendix D). The procedures specified in Section 7.3 or 7.4, respectively, will be followed.

7.2.4 Interim Response Action and Interim Measure Processes

If data or information acquired at any time indicate that an expedited response is needed or appropriate because of an actual or threatened release from a past-practice unit, the lead regulatory agency may require the DOE to submit a proposal for an expedited response at that unit. In addition, the DOE may submit such a proposal at any time, without request from the lead regulatory agency.

Both CERCLA and RCRA include provisions for expedited responses. These expedited responses will be reserved for situations in which an expedited response is determined to be warranted by the lead regulatory agency, which for purposes of this section includes both interim response action and interim measures. An IRA refers to the CERCLA process and an IM refers to the RCRA process. The IRA or IM process will be used in cases where early remediation will prevent the potential for an imminent and substantial endangerment or an imminent hazard to develop. It may also be used in cases where a single unit within an operable unit is a high priority for action, but the overall priority for the operable unit is low. In this way, a specific unit or release at an operable unit can be addressed on an expedited schedule, when warranted.

In addition to the CERCLA and RCRA authorities, Section 2 of Executive Order 12580, dated January 29, 1987, allows the DOE to implement removal actions in circumstances other than emergencies. To the extent that a removal action taken by the DOE under Executive Order 12580 could be inconsistent with the CERCLA or RCRA processes, or if such action could alter the schedules as set forth in Appendix D, the concurrence of DOE and the lead regulatory agency shall be required prior to initiation of field work in accordance with the modification procedures described in Section 12.0.

If the operable unit is being managed under the CPP procedures, an IRA proposal shall be submitted by the DOE to the lead regulatory agency, and the IRA shall be conducted in accordance with 40 CFR Part 300 Subpart E. If the operable unit is being managed under the R-CPP procedures, the IM and/or IRA proposal shall be submitted to the lead regulatory agency, and the IM and/or IRA shall be conducted in accordance with applicable regulations of the authority through which action is implemented. If the operable unit has not yet been assigned to either the CPP or R-CPP process, the EPA and Ecology will jointly choose an authority to address the expedited response.

Any proposal for an IRA or an IM must be approved by the lead regulatory agency prior to initiation of field work. The selection of remedy for an IRA or an IM shall be consistent, to the extent practicable, with anticipated alternatives for final selection of remedial action (for CPP units) or corrective measures and remedial action (for R-CPP units).

Public comment on the IRA proposal, as well as other public participation opportunities, will be provided as described in Section 10.0.

7.3 COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT PAST-PRACTICE UNIT PROCESS

The purpose of this subsection is to provide an overview of the CPP unit process to be used at the Hanford Site to initiate effective, timely, and environmentally sound cleanup of operable units handled under CERCLA. This includes a description of the RI/FS process, followed by a short discussion of the remedial design (RD), remedial action (RA), and operation and maintenance (O&M) phases.

7.3.1 Preliminary Assessment/Site Inspection

The Preliminary Assessment/Site Inspection (PA/SI) is used as an initial screening step to determine whether a site should be nominated for the CERCLA NPL. For the Hanford Site, the information necessary to make that determination was provided to the EPA in 1987 by the DOE. The EPA determined that this information was functionally equivalent to a PA/SI. Based on that information, the Hanford Site was ranked and then nominated for inclusion on the NPL on June 24, 1988 (Federal Register Vol. 53, No. 122, p. 23988). The four aggregate areas of the Hanford Site were officially placed on the NPL effective November 3, 1989 (Federal Register Vol. 54, No. 191, p. 41015). Therefore, there is no need to continue a PA/SI activity for the Hanford Site. Efforts will proceed directly to the scoping activities previously discussed and the RI/FS process. Figure 7-3 shows the normal sequence of events that occur during the RI/FS process.

7.3.2 Remedial Investigation/Feasibility Study Work Plan for Each Operable Unit

The RI/FS work plan is a primary document, as described in Section 9.0. The lead regulatory agency will provide comments on each RI/FS work plan that is submitted by the DOE. The lead regulatory agency will require the DOE to make appropriate changes to the RI/FS work plan and will approve the work plan. At that time, the work schedule (Appendix D) may need to be modified to accurately reflect the RI/FS work plan schedule. Such modification will be made in accordance with the procedures described in Section 12.0. At that time, the lead regulatory agency will publish the RI/FS schedule, in accordance with CERCLA Section 120(e)(1) and as specified in Article XVII of the Agreement. As additional information becomes available during the RI/FS process, the RI/FS work plan may be revised.

The RI/FS work plan will include or reference seven interrelated components as they pertain specifically to RI/FS activities at any given operable unit. These components, prepared in accordance with current EPA guidance documents, include the following:

- Technology
- Quality assurance/quality control
- Project management
- Sampling and analysis
- Data management
- Health and safety
- Community relations.

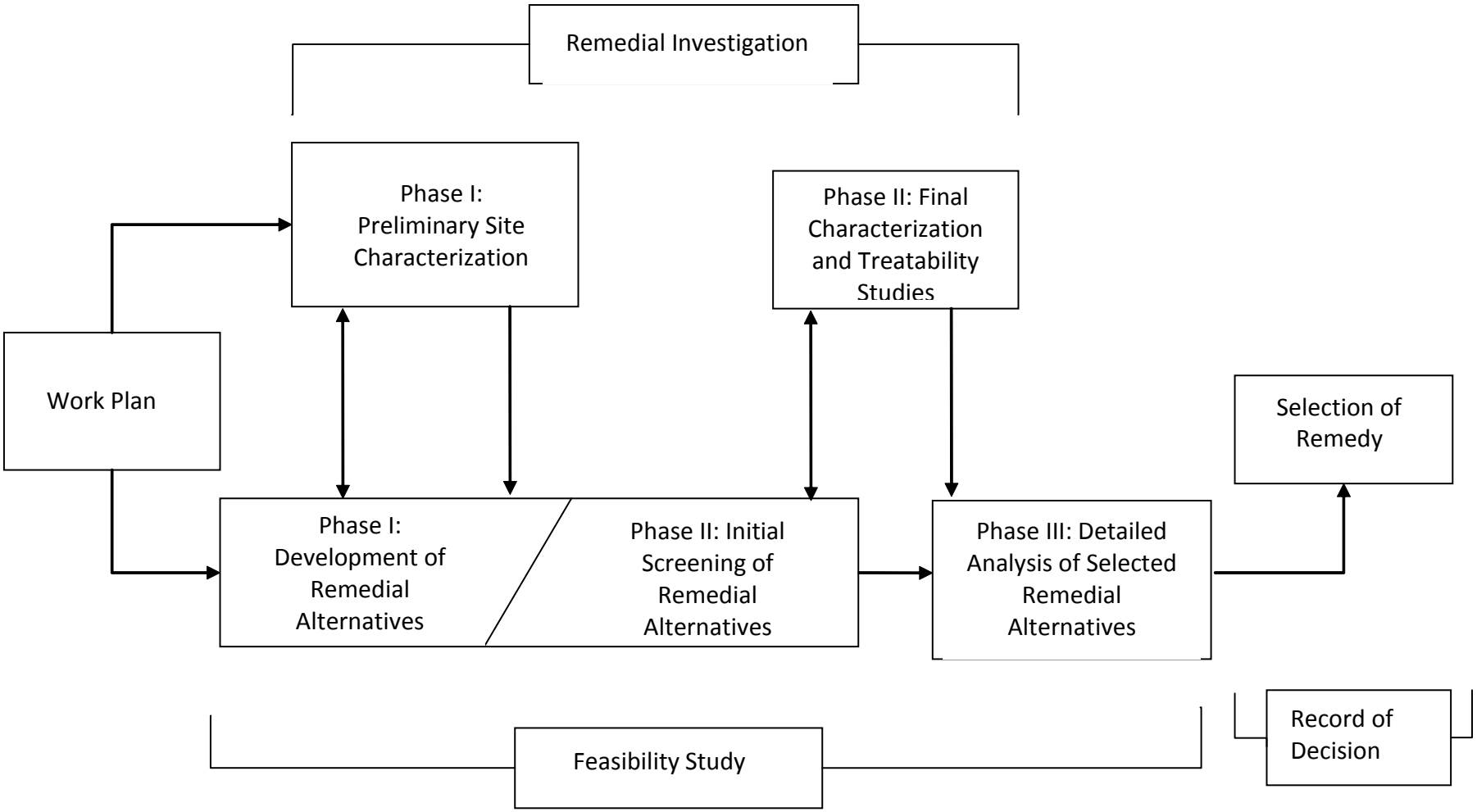


Figure 7-3. Overview of the Remedial Investigation/Feasibility Study Process.

Every effort will be made to standardize these across RI/FS work plans to minimize the time and resources required for preparation and review. The community relations component will be prepared and issued as a separate formal plan as described in Section 10.0 and will then be referenced in each RI/FS work plan.

The following site survey and screening activities may precede submittal of the RI/FS work plan, and are a continuation of the operable unit scoping activity described in Section 7.2.2:

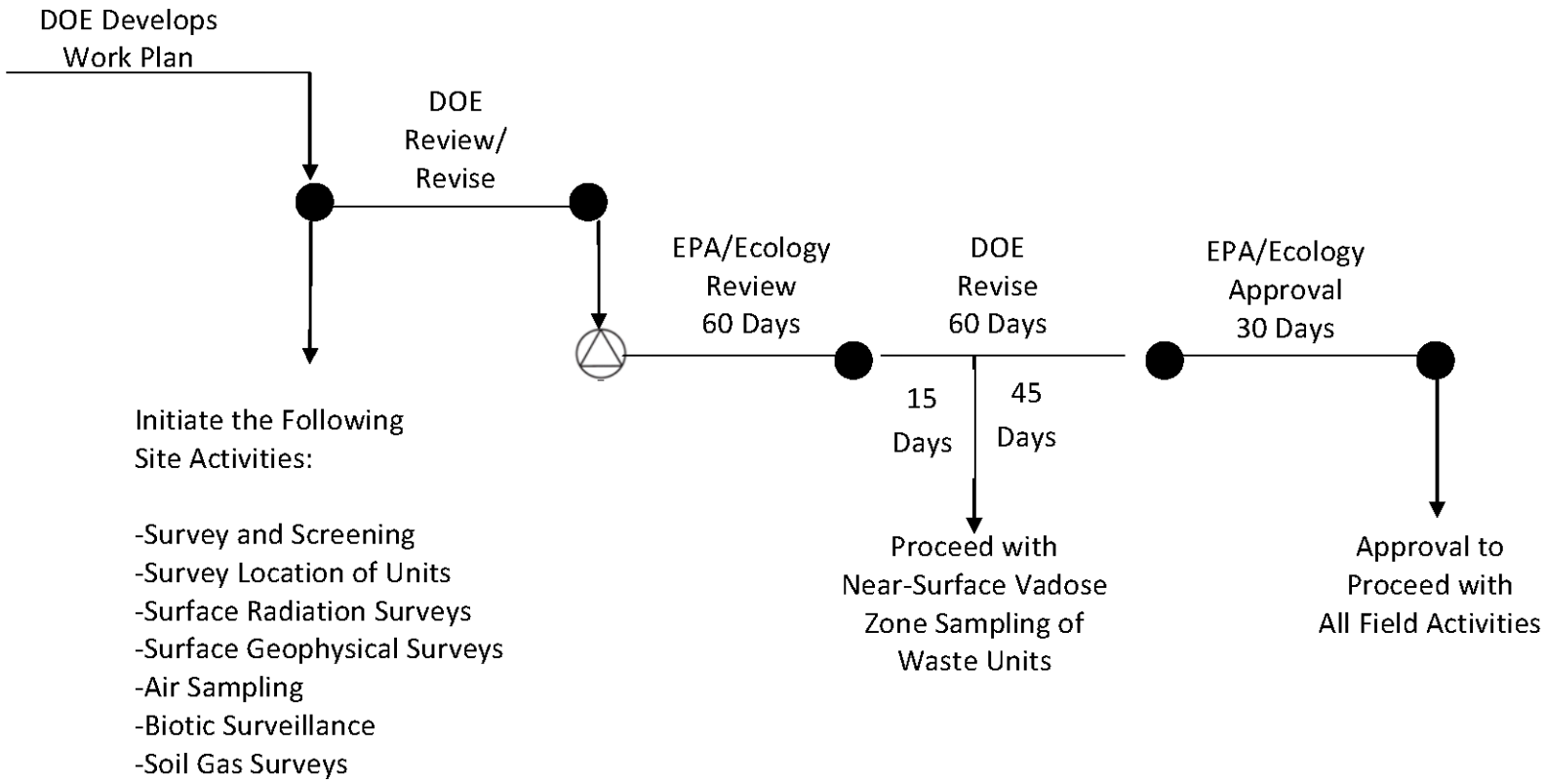
- Survey location of sites
- Surface radiation
- Surface geophysical surveys
- Air sampling
- Soil gas surveys
- Biotic surveillance.

This will allow for a quicker start of characterization activities upon approval of the RI/FS work plan. The results of the site survey and screening activities will be factored into the work plan, as appropriate, during the review and approval process. In addition, to further expedite the process, near-surface vadose zone sampling activities may commence after 2 weeks following the receipt of comments from the lead regulatory agency on the initial draft of the RI/FS work plan if comments from the lead regulatory agency regarding vadose zone sampling have been resolved. Figure 7-4 depicts the normal review and approval cycle for primary documents (see Section 9.0) as applied to the RI/FS work plans. Figure 7-4 also applies to RFI/CMS work plans, which are discussed in Section 7.4.2.

7.3.3 Remedial Investigation--Phase I

The first phase of the remedial investigation (RI) will focus on defining the nature and extent of contamination through field sampling and laboratory analysis. This will include characterization of waste types, migration routes, volume, and concentration ranges. This information will be used to further develop cleanup requirements.

The DOE will initiate those activities necessary to characterize and assess risks, routes of exposure, fate and transport of contaminants, and potential receptors. It is anticipated that because of the limited data available during this phase to adequately assess risks, including environmental pathways and expected exposure levels, this analysis will be further developed during the feasibility studies (FS).



DOE =U.S. Department of Energy
Ecology =State of Washington Department of Ecology
EPA =U.S. Environmental Protection Agency

Figure 7-4. Remedial Investigation/Feasibility Study (Resource Conservation and Recovery Act Facility Investigation/ Corrective Measure Study) Work Plan Review and Approval.

In some cases, treatability investigations at an operable unit will involve minimal activity. In other cases, treatability investigations at a previously investigated operable unit may be used at other operable units whenever warranted by site-specific conditions. When these situations exist, it is possible to expedite the RI/FS process by combining the RI Phase I activity with the RI Phase II activity. Any decision to combine the RI Phases I and II must be agreed to in writing by the lead regulatory agency, in accordance with the procedures described in Section 12.0, unless it was agreed to during the initial approval of the RI/FS work plan.

The actual schedule for conducting the RI Phase I will be specified for each operable unit in the work schedule (Appendix D). The RI Phase I report is a secondary document, as described in Section 9.0. In cases where the RI Phases I and II have been combined, a RI Phases I and II report shall be prepared by the DOE and submitted to the lead regulatory agency as a primary document, as described in Section 9.0.

7.3.4 Feasibility Study--Phase I

The FS Phase I will be conducted by the DOE for the purpose of developing an array of alternatives to be considered for each operable unit. The DOE will develop the alternatives for remediation by assembling combinations of technologies, and the media to which the technologies could be applied, into alternatives. The alternatives will address all contamination at each operable unit.

The FS Phase I process will begin during the RI Phase I process when sufficient data are available. Such data will consist of analytical data obtained during the RI, as well as historical information regarding waste management units at the operable unit.

Because of the direct relationship between FS Phase I (development of alternatives) and FS Phase II (screening of alternatives--Section 7.3.5), the two phases will be conducted concurrently. This approach should save several months in the RI/FS process, without sacrificing quality of work. Since Phases I and II of the FS will be finished at the same time, the information from both phases will be submitted to the lead regulatory agency in a single FS Phases I and II report.

7.3.5 Feasibility Study--Phase II

The FS Phase II will be a screening step to reduce the number of treatment alternatives for further analysis while reserving a range of options. Screening will be accomplished by considering the alternatives based on effectiveness, implementability, and cost factors. Cost may be used as a factor when comparing alternatives that achieve acceptable standards of performance.

Innovative technologies will be carried through the screening process if they offer the potential for better treatment performance or implementability, fewer or less adverse impacts than other available technologies, or lower costs than demonstrated technologies with comparable environmental results.

As stated in Section 7.3.4, Phases I and II of the FS will be conducted concurrently. Therefore, the FS Phase II will begin as soon as sufficient

data from the RI Phase I is obtained. The actual schedule for conducting the FS Phases I and II will be specified for each operable unit in the work schedule (Appendix D). The FS Phases I and II report, is a primary document as described in Section 9.0.

7.3.6 Remedial Investigation--Phase II

This second phase of the RI will focus on collecting data sufficient to substantiate a decision for remedy selection. A supplemental work plan to the RI/FS work plan will be prepared to cover the RI Phase II activities. This work plan will be placed in the Public Information Repositories. After a literature search is conducted to consider the applicability of various remediation alternatives, treatability investigations may be performed for particular technologies. Additional field data will be collected as needed to further assess alternatives. Treatability investigation work plans will be submitted by DOE to the lead regulatory agency when the investigation is related to a specific operable unit per the RI/FS work plan. All treatability investigation work plans shall be assigned to an operable unit for which a lead regulatory agency has been identified. The lead regulatory agency shall determine on a case-by-case basis whether a treatability investigation work plan is a primary document or a secondary document (see Section 9.1) during development of the applicable RI/FS (or RFI/CMS) work plan.

Upon completion of the treatability investigation, DOE shall submit a treatability investigation report to the lead regulatory agency, documenting the findings of the investigation and applicability to the remedial action project. The treatability investigation report is a secondary document (see Section 9.1).

The actual schedule for conducting the RI Phase II will be specified for each operable unit in the work schedule (Appendix D). The RI Phase II report is a primary document as described in Section 9.0. Where the RI Phase I and Phase II activities have been combined (see Section 7.3.3), the resulting RI Phases I and II report would also be a primary document.

7.3.7 Feasibility Study--Phase III and Proposed Plan

The treatment alternatives passing through the initial screening phases will be analyzed in further detail against a range of factors and compared to one another during the FS Phase III. This final screening process will begin once the FS Phases I and II report is approved by the lead regulatory agency.

The determination for the preferred alternative will be made based on the following general criteria:

- Does the alternative protect human health and the environment and attain ARARs
- Does the alternative significantly and permanently reduce the toxicity, mobility, and volume of hazardous constituents
- Is the alternative technically feasible and reliable.

In addition, the costs of construction and the long-term costs of operation and maintenance will be considered.

The actual schedule for conducting the FS Phase III will be specified for each operable unit in the work schedule (Appendix D) and integrate any planned facility dispositioning per paragraph 8.3. A FS Phase III report will be prepared by the DOE documenting the results of the RI/FS. The FS Phase III report is a primary document as described in Section 9.0.

With consideration of all information generated through the RI/FS process, the DOE shall prepare a proposed plan. This proposed plan is required by CERCLA Section 117(a). The proposed plan must describe an analysis of the feasible alternatives and clearly state why the proposed remedy is the most appropriate for the operable unit, based on written EPA guidance and criteria. Once the lead regulatory agency has concurred on the proposed plan, and the FS Phase III report, the documents will be made available for public review and comment in accordance with the procedures described in Section 10.0. Public review of the proposed plan will provide opportunity for consideration of two additional criteria in preparation of the record of decision. These criteria are State and community preference or concerns about the proposed alternatives.

7.3.8 Record of Decision

After the public comment period on the FS Report and the Proposed Plan has closed the Record of Decision (ROD) process will begin. A draft ROD will be prepared by the EPA (or jointly by EPA and Ecology, if Ecology is the lead regulatory agency). The lead regulatory agency, working in cooperation with DOE (and EPA if Ecology is the lead regulatory agency), will finalize the ROD. The goal of the Parties is to finalize the ROD within 180 days of the close of the public comment period. The ROD will describe the decision making process for remedy selection, summarize the alternatives developed, screened, and evaluated in accordance with CERCLA and the NCP and include a responsiveness summary addressing comments provided on the Proposed Plan. Although all of the RI/FS documents and preliminary determinations leading up to the ROD will be the responsibility of DOE and the lead regulatory agency, the ROD must be signed by EPA. The ROD will become part of the administrative record. The lead regulatory agency shall continue its role after issuance of the ROD, including oversight of the remedial design and remedial action phases, as described below.

7.3.9 Remedial Design Phase

Following issuance of the ROD, the remedial design (RD) phase will be initiated in accordance with a schedule agreed to by the project managers. Milestone change requests shall be processed in accordance with Section 12.0. Since any necessary treatability investigations have been performed during the RI Phase II, no additional investigations will be necessary, unless required by the lead regulatory agency. A number of items will be completed during the RD phase, including but not limited to the following:

- Completion of design drawings
- Specification of materials of construction
- Specification of construction procedures
- Specification of all constraints and requirements (e.g., legal)

- Development of construction budget estimate

- Preparation of all necessary and supporting documents.

An RD report will be prepared that includes the designs and schedules for construction of any remediation facility and development of support facilities (lab services, etc.). The RD report shall contain at least a 90% design. If less than 90% design submission is required by the lead regulatory agency, it will be documented in the RD/RA work plan. The RD report is a primary document as described in Section 9.0. The schedule for conducting the RD phase will be specified for each operable unit in the work schedule (Appendix D).

7.3.10 Remedial Action Phase

The remedial action (RA) phase will be initiated in accordance with a schedule agreed to by the project managers. Milestone change requests shall be processed in accordance with Section 12.0. The RA phase is the implementation of the detailed actions developed under the RD. The RA will include construction of any support facility, as specified in the RD report, as well as operation of the facility to effect the selected RA at that operable unit.

A RD/RA work plan will be developed for each operable unit (or group of OUs as agreed to by the Parties) detailing the plans for RD and RA. The RD/RA work plan is a primary document as described in Section 9.0. The schedule for conducting the RD and RA phases will be specified for each operable unit in the work schedule (Appendix D). Submittal of RD/RA work plans shall be consistent with Section 11.6. The RD/RA work plan shall include a conceptual-level design.

Upon satisfactory completion of the RA phase for a given operable unit, the lead regulatory agency shall issue a certificate of completion to the DOE for that operable unit. At the discretion of the lead regulatory agency, a certificate of completion may be issued for completion of a portion of the RA phase for an operable unit.

7.3.11 Operation and Maintenance

The operation and maintenance (O&M) phase will be initiated at each operable unit when the RA phase has been completed. This phase will include inspections and monitoring as described in the O&M plan. In all cases where waste or contamination is left in place as part of the RA, the O&M phase is expected to be a long-term activity. Where waste or contamination is left in place, the operable unit will be evaluated by the lead regulatory agency at least every 5 years during the O&M phase to determine whether continued O&M activity is indicated or further RA is required. The lead regulatory agency may conduct more frequent evaluations should data indicate this is necessary to ensure effective implementation of the RA. All O&M data and records obtained to that date, along with any additional information provided by the DOE, will be used in that evaluation.

In cases where all waste or contamination is removed or destroyed, a short period for the O&M phase for specific units within an operable unit may be specified by the lead regulatory agency. The lead regulatory agency may, where appropriate, allow for the O&M phase to be terminated for certain units within an operable unit while requiring O&M to be continued at other units.

In these cases, certain units may be considered for delisting in accordance with the NCP, after the O&M phase has been completed.

The O&M plan is a primary document as described in Section 9.0. The schedule for conducting significant steps described in the O&M plan are specified for each operable unit in the work schedule (Appendix D).

7.4 RESOURCE CONSERVATION AND RECOVERY ACT AND COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT PAST-PRACTICE UNIT PROCESS

The R-CPP processes are the subject of this Section and are governed by the authorized state corrective action program and CERCLA.

7.4.1 Resource Conservation and Recovery Act Facility Assessment

For those units that are defined as R-CPP units, the lead regulatory agency for an operable unit may require the DOE to conduct a RCRA facility assessment (RFA) of all or some of the R-CPP units within that operable unit. The need for an RFA is based on whether sufficient knowledge exists to determine if an RFI and RI is required. Based on the results of the RFA, the lead regulatory agency may require additional information from the DOE, or it may determine that no further investigation or corrective action is required for any of the R-CPP units within the operable unit. The project manager for the lead regulatory agency for that operable unit may direct the DOE to conduct a RFI and RI based on results of the RFA.

The RFA will be developed in accordance with current applicable regulations, guidance documents, and written policy available at the time the RFA is begun. An RFA report will be prepared documenting the results of the RFA. The RFA report is a primary document as described in Section 9.0. If the lead regulatory agency determines that further investigation is necessary, the project manager for the lead regulatory agency will direct the DOE to prepare an RFI and RI report, as described below.

In some cases, sufficient information may already exist that indicates that further investigation will be required. In these cases the RFA process will be bypassed and effort will be focused on the RFI/CMS and RI/FS. Figure 7-5 shows the normal sequence of events that occur during the RFI/CMS process.

7.4.2 Resource Conservation and Recovery Act Facility Investigation and Remedial Investigation

Each RCRA Facility Investigation (RFI) and Remedial Investigation (RI) will address all units within a specific operable unit, as identified in the RFI/CMS and RI/FS work plan. Certain operable units also contain TSD units, primarily land disposal units that are to be investigated and managed in conjunction with past-practice units. The information necessary for performing RCRA closures within an operable unit will be provided in coordination with various RFI/CMS and RI/FS documents as discussed in Section 5.5. Timing for submittal of the work plan will be in accordance with the work schedule (Appendix D).

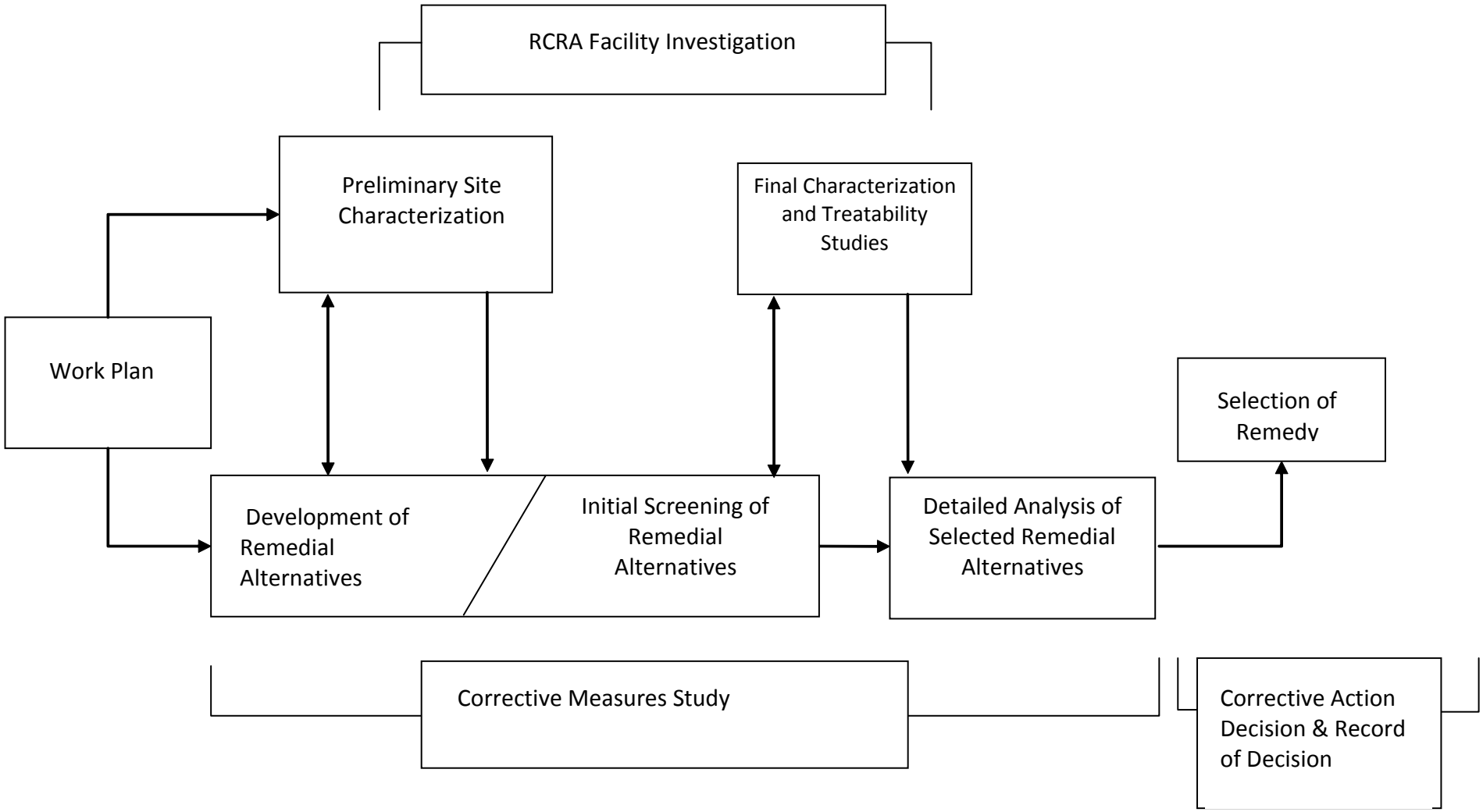


Figure 7-5. Overview of RCRA Facility Investigation/Corrective Measures Study Process.

An RFI and RI report will be prepared by the DOE, and it will document the results of the RFI and RI. The RFI and RI report is a primary document as described in Section 9.0. The schedule for conducting the RFI and RI will be specified for each operable unit in the work schedule (Appendix D) and integrate any planned facility dispositioning in accordance with Section 8. The information obtained through the RFI and RI must include information gathered in the CERCLA process through the RI Phases I and II, as described in Sections 7.3.3 and 7.3.6.

Based on the results of the RFI and RI, the lead regulatory agency may determine that no further investigation or corrective action is required for each R-CPP unit in an operable unit. The project manager from the lead regulatory agency for that operable unit may direct the DOE to conduct a CMS and FS based on results of the RFI.

Alternatively, a CERCLA RI prepared as described in Section 7.3.2, 7.3.3 and 7.3.6 may substitute for an RFI and RI.

7.4.3 Corrective Measures Study and Feasibility Study and Proposed Corrective Action Decision/Proposed Plan

A Corrective Measures Study (CMS) and Feasibility Study (FS) shall be prepared by the DOE and will include an identification and development of the corrective measure and remedial action alternative(s), an evaluation of these alternatives, and a justification for the recommended alternative. The CMS and FS will include development of a cost estimate for each alternative considered.

A CMS and FS report documenting the results of the study will be prepared by the DOE. The CMS and FS report is a primary document as described in Section 9.0. The schedule for conducting the CMS and FS will be specified for each operable unit in the work schedule (Appendix D). The information obtained through the CMS and FS must include information gathered in the CERCLA process through the FS Phases I, II, and III as described in Sections 7.3.4, 7.3.5, and 7.3.7.

Alternatively, a CERCLA FS prepared as described in Sections 7.3.4, 7.3.5, and 7.3.7 may substitute for a CMS and FS, provided that the FS includes an assessment of (or a basis on which to assess) satisfaction of state corrective action standards in evaluating alternatives.

With consideration of all information generated through the preceding investigative and study processes, the DOE shall prepare a proposed corrective action decision/proposed plan in accordance with the schedule specified in the work schedule (Appendix D). The proposed corrective action decision/proposed plan is a primary document as described in Section 9.0. The proposed corrective action decision/proposed plan must describe an analysis of the feasible alternatives and clearly state why the proposed remedy is the most appropriate for the operable unit, based on state corrective action decision criteria and written CERCLA guidance and criteria.

Once the lead regulatory agency has approved the CMS and FS Report and the proposed corrective action decision/proposed plan, the documents will be made available for public review and comment in accordance with the procedures described in Section 10.0. Public review of the proposed corrective action

decision/proposed plan will provide opportunity for consideration of an additional criterion in preparation of the Corrective Action Decision and Record of Decision. This criterion is community preference or concerns about the proposed alternatives.

7.4.4 Corrective Action Decision and Record of Decision

After the public comment period has closed on the CMS and FS report and the proposed corrective action decision/proposed plan, the corrective action decision/record of decision (CAD/ROD) process will begin.

A draft CAD will be prepared by Ecology and will describe the decision making process for corrective measures selection, and summarize the alternatives developed, screened, and evaluated in accordance with state corrective action requirements, incorporating by reference, as appropriate, the ROD discussion of the same topics. The CAD must be signed by Ecology. See TPA Action Plan Section 7.3.8 for development of a ROD. The goal of the lead regulatory agency (Ecology), working in cooperation with DOE and EPA, is to finalize both the CAD and the ROD within 180 days of the close of the public comment period on the CMS and FS report and the proposed corrective action decision/proposed plan. Any disputes between Ecology and DOE during development of the final CAD will be resolved in accordance with the dispute resolution procedures in Article VIII, Resolution of Disputes. Any disputes with DOE during development of the final ROD will be resolved in accordance with the dispute resolution procedures in Article XVI, Resolution of Disputes. The Article VIII and Article XVI dispute resolution processes on selection of a CERCLA remedial action and a RCRA corrective action will run concurrently in accordance with Paragraph 59(P). The CAD and ROD will both become part of their respective administrative record. The lead regulatory agency shall continue its role after issuance of the CAD and ROD, including oversight of the remedial design and remedial action phases, as described below.

7.4.5 Corrective Measures and Remedial Design/Remedial Action Implementation

The lead regulatory agency for the operable unit shall continue its oversight role through the corrective measures implementation (CMI) and Remedial Design/Remedial Action (RD/RA) phase including any long-term monitoring or maintenance phase that is specified in the CMI and RD/RA work plan.

Following issuance of the CAD and ROD, the CMI and RD/RA phase will be initiated as provided under Section 11.6, in accordance with a schedule agreed to by the project managers. Milestone change requests shall be processed in accordance with Section 12.0.

The DOE will initiate, maintain progress toward completion of, and complete any necessary corrective and remedial action for all R-CPP units within each operable unit in accordance with a CMI and RD/RA work plan and corrective measures and RD design (CMD and RD) report. The CMD and RD report will satisfy the requirements of Section 7.3.9. This work will be done in accordance with current applicable regulations, guidance documents, and written policy available at any time during the corrective and remedial action process. The CMI and RD/RA work plan will satisfy the requirements of an RA work plan described in Section 7.3.10.

The CMI and RD/RA work plan and the CMD and RD report, which are produced as part of the CMI and RD/RA phase, are primary documents as described in Section 9.0. The schedule for developing the CMI and RD/RA work plan and conducting the CMI and RD/RA will be specified for each operable unit in the work schedule (Appendix D). The CMI and RD/RA phase will be conducted in accordance with the schedule of compliance specified in the work schedule (Appendix D).

Upon satisfactory completion of the CMI and RD/RA phase as described in the CMI and RD/RA work plan for a given operable unit, the lead regulatory agency shall issue a certificate of completion to the DOE for that operable unit. At the discretion of the lead regulatory agency, a certificate of completion may be issued for completion of a portion of the CMI and RD/RA phase for an operable unit.

7.4.6 Operation and Maintenance

The operation and maintenance (O&M) phase will be initiated at each operable unit when the CMI and RD/RA phase has been completed. This phase will include inspections and monitoring as described in the O&M plan. In all cases where waste or contamination is left in place as part of the CMI and RD/RA, the O&M phase is expected to be a long-term activity. Where waste or contamination is left in place, the operable unit will be evaluated by the lead regulatory agency at least every 5 years during the O&M phase to determine whether continued O&M activity is indicated or further CMI and RD/RA is required. The lead regulatory agency may conduct more frequent evaluations should data indicate this is necessary to ensure effective implementation of the CMI and RD/RA. All O&M data and records obtained to that date, along with any additional information provided by DOE, will be used in that evaluation.

In cases where all waste or contamination is removed or destroyed, a short period for the O&M phase for specific units within an operable unit may be specified by the lead regulatory agency. The lead regulatory agency may, where appropriate, allow for the O&M phase to be terminated for certain units within an operable unit while requiring O&M to be continued at other units. In these cases, certain units may be considered for delisting in accordance with the NCP, after the O&M phase has been completed.

The O&M plan is a primary document as described in Section 9.0. The schedule for conducting significant steps described in the O&M plan is specified for each operable unit in the work schedule (Appendix D).

7.4.7 Offsite Releases and Corrective Action

In the event that hazardous constituents or contamination from a landfill unit, surface impoundment, or waste pile is found to have migrated beyond the boundaries of the Hanford Site, the lead regulatory agency may require that corrective action for such contamination be conducted. Corrective action authority will be implemented through a schedule of compliance. The DOE shall make every reasonable effort to gain access to investigate and remediate offsite contamination. The DOE will document attempts to attain offsite access for investigative work and corrective action in such cases, in accordance with the access provisions as specified in Article XXXVII of the Agreement. Where necessary to accomplish offsite RA, such releases may be

addressed by the lead regulatory agency under CERCLA authority.

The DOE will initiate, maintain progress toward completion of, and complete any offsite corrective action required by the lead regulatory agency, in accordance with the time frames specified in the work schedule (Appendix D) and in accordance with current applicable regulations, guidance documents, and written policy available at any time during the corrective action process.

7.5 CLEANUP REQUIREMENTS

In accordance with Section 121(d) of CERCLA, the DOE will comply with all ARARs when hazardous substances, pollutants, or contaminants are to remain onsite as part of RAs. These requirements include cleanup standards, standards of control, and other substantive environmental protection requirements and criteria for hazardous substances as specified under Federal or State laws and regulations. The parties intend that ARARs, as appropriate, will apply at all past practice units at the Hanford Site to ensure continuity between the RCRA and CERCLA authorities.

"Applicable requirements" are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law. These requirements specifically address a hazardous substance, pollutant, contaminant, hazardous waste, hazardous constituent, RA, location, or other circumstance at the Hanford Site.

"Relevant and appropriate requirements" are those which do not meet the definition of applicable requirements, yet pertain to problems or situations similar to those encountered in the cleanup effort at the Hanford Site. Such requirements must be suited to the unit under consideration and must be both relevant and appropriate to the situation.

The ARARs are classified into three general categories as follows:

- Ambient or chemical-specific requirements. These are established numeric criteria for various constituents. These criteria are usually set from risk-based or health-based values or methodologies

- Performance, design, or other action-specific requirements. These are usually technology or activity-based requirements or limitations on actions taken with respect to a given hazardous substance or hazardous constituent

- Location-specific requirements. These are restrictions placed on the concentration of hazardous substances or hazardous constituents or on the conduct of activities solely because they occur in special locations.

In addition to ARARs, certain non-promulgated Federal or State criteria, advisories, guidance, and proposed standards may be used to establish cleanup standards. These "to-be-considered" criteria can be imposed if necessary to assure protection of human health and the environment but are not necessarily legally binding. These criteria will be specified by the lead regulatory agency in cases where an ARAR does not exist, or in cases where the lead

regulatory agency does not believe the ARAR is protective of human health and the environment given the site specific conditions.

For units which are selected for abatement actions or interim actions, as described in Sections 7.2.3 and 7.2.4, ARARs will be applied, where appropriate, recognizing that these units will later be subject to ARARs during the final remedial or corrective action process.

Compliance with an ARAR may be waived in certain circumstances, as specified in current EPA guidance on cleanup requirements. Waivers will be limited to the following situations:

- Cases in which the remedy selected is only part of a total remedial action that will satisfy the ARAR when completed.

- Cases in which compliance with an ARAR will result in a greater risk to human health and the environment than an alternative option.

- Cases in which compliance with an ARAR is technically impracticable from an engineering perspective.

- Cases in which alternative treatment methods to those specified as ARARs have been shown to result in equivalent standards of performance.

- With respect to a State standard, requirement, criteria, or limitation, the State has not consistently applied procedures to establish a standard, requirement or criteria or demonstrated the intention to consistently apply the standard, requirement, criteria, or limitation in similar circumstances at other RAs.

Federal statutes, regulations, and "to-be-considered" criteria from which cleanup requirements will be developed are included in the current EPA guidance document, "CERCLA Compliance with Other Laws Manual." The following list identifies the key state statutes and regulations from which cleanup requirements will be developed for the Hanford Site. This list is not intended to be inclusive; other standards may be applicable on a case-by-case basis. In addition, this list can be expanded as new State statutes and regulations become effective:

- Washington State Environmental Policy Act--Chapter 43.21C RCW, and implementing regulations;

  Guidelines Interpreting and Implementing the State Environmental Policy Act--197-11 WAC

- Water Well Construction Act--Chapter 18.104 RCW, and implementing regulations;

  Minimum Standards for Construction and Maintenance of Water Wells--173-160 WAC

- Washington Clean Air Act--Chapter 70.94 RCW

- Solid Waste Management, Recovery and Recycling Act--Chapter 70.95 RCW, and implementing regulations;

  Minimum Functional Standards for Solid Waste Handling--173-304 WAC

- Nuclear Energy and Radiation Act--Chapter 70.98 RCW, and implementing regulations;

  Standards for Protection Against Radiation--402-24 WAC

  Licensing Requirements for Land Disposal of Radioactive Waste--402-61 WAC

  Monitoring and Enforcement of Air Quality and Emission Standards for Radionuclides--402-80 WAC

- Hazardous Waste Management-Chapter 70.105 RCW, and implementing regulations;

  Dangerous Waste Regulations--173-303 WAC

- Model Toxics Control Act--Chapter 70.105D RCW, and implementing regulations;

  Model Toxics Control Act Cleanup Regulation--173-340 WAC

- Washington State Water Code--Chapter 90.03 RCW

- Regulation of Public Groundwaters--Chapter 90.44 RCW

- Water Pollution Control Act--Chapter 90.48 RCW, and implementing regulations;

  Water Quality Standards for Water of the State of Washington--173-201 WAC

  State Waste Discharge Program--173-216 WAC

  Underground Injection Control Program--173-218 WAC

  National Pollution Discharge Elimination System Permit Program--173-220 WAC

- Water Resources Act of 1971--Chapter 90.54 RCW

- Shoreline Management Act--Chapter 90.58 RCW and implementing regulations, 173-14 through 173-22 WAC

The DOE shall use the Federal and State sources of information, as mentioned above, in developing proposed ARARs during the RI/FS (or RFI/CMS and

RI/FS) process. The detailed documentation of ARARs shall be provided in an appendix to the FS Phase III Report (or CMS and FS report).

The lead regulatory agency for each CERCLA and RCRA-CERCLA operable unit shall prepare a summary of the rationale for selection of ARARs for the ROD.

In the event that new standards are developed subsequent to initiation of RA at any operable unit, and these standards result in revised ARARs or "to-be-considered" criteria, these new standards will be considered by the lead regulatory agency as part of the review conducted at least every five years under Section 121(c) of CERCLA.

7.6 NATURAL RESOURCE TRUSTEESHIPS

Section 107 of CERCLA imposes liability for damages for injury to, destruction of, or loss of natural resources. It also provides for the designation of Federal and State trustees, who shall be responsible for, among other things, the assessment of damages for injury to, destruction of, or loss of natural resources. Current regulations concerning such trustees are in the NCP, 40 CFR Part 300, Subpart G.

The DOE shall notify appropriate Federal and State natural resource trustees as required by section 104(b)(2) of CERCLA and Section 2(e)(2) of Executive Order 12580.

In addition to DOE, the relevant Federal trustees for the Hanford Site are the U.S. Department of Commerce and the U.S. Department of the Interior (DOI). Their respective roles are described below.

7.6.1 National Oceanic and Atmospheric Administration

The National Oceanic and Atmospheric Administration (NOAA) acts on behalf of the Secretary of Commerce as a Federal trustee for living and nonliving natural resources in coastal and marine areas. Resources of concern to the NOAA include all life stages, wherever they occur, of fishery resources of the exclusive economic zone and continental shelf and anadromous species throughout their ranges. For resources in coastal waters and anadromous fish streams, the NOAA may be a co-trustee with the DOI, other Federal land management agencies, and the affected States, and Indian Tribes. Chinook, coho, and sockeye salmon, as well as steelhead trout, are the anadromous species that utilize the Hanford Reach for spawning, rearing, foraging, and as a migratory corridor.

Under an existing interagency agreement with the EPA, the NOAA will provide a Preliminary Natural Resource Survey (PNRS) to the EPA by December 31, 1988, detailing trust species of concern at the four aggregate areas at the Hanford Site (the 100, 200, 300, and 1100 Areas). The NOAA will also provide technical review, at the operable unit level, of RI/FS work plans, RI reports, FS reports, RD reports, and RA work plans, as appropriate. These technical reviews will be done to ensure that potential impacts to anadromous fish in the Hanford Reach are addressed in the CERCLA process. The NOAA will coordinate with other natural resource trustees, as appropriate, to preclude duplication of effort. The DOE will provide the NOAA with a copy of documents listed above at the time of submission to the EPA. The NOAA will provide technical comments to the EPA for incorporation and transmittal to the

DOE. Timing for submittal of comments by the NOAA will be consistent with the time frames specified for primary document review in Section 9.2. The PNRS provided by the NOAA and each set of technical comments will become part of the administrative record.

7.6.2 Department of the Interior (DOI)

The DOI responsibilities as a natural resource trustee will be shared by three separate bureaus within the DOI. These bureaus are the U.S. Geological Survey, U.S. Fish and Wildlife Service, and the Bureau of Indian Affairs. Each bureau will prepare a report for DOI based on its respective responsibility as a natural resource trustee. The DOI will consolidate these reports and issue a PNRS. The DOI will coordinate with other natural resource trustees, as appropriate, to preclude duplication of effort. The PNRS conducted by DOI will become part of the administrative record.

The PNRS will be completed under an existing interagency agreement between the DOI and the EPA. If further work beyond the PNRS is undertaken by the DOI, such work will be funded through DOI sources.

7.7 HEALTH ASSESSMENTS

The Agency for Toxic Substances and Disease Registry (ATSDR) is a part of the U.S. Public Health Service, which is under the U.S. Department of Health and Human Services. The ATSDR was created by Congress to help implement the health-related sections of laws that protect the public from hazardous waste and environmental spills of hazardous substances. The CERCLA requires ATSDR to conduct a health assessment within one year following proposal to the NPL for any site proposed after October 17, 1986.

The ATSDR health assessment is the result of the evaluation of data and information on the release of hazardous substances into the environment. Its purpose is to assess any current or future impacts on public health, to develop health advisories or other health recommendations, and to identify studies or actions needed to evaluate and mitigate or prevent adverse human health effects.

The ATSDR will prepare a preliminary health assessment for each of the four Hanford NPL areas (the 100, 200, 300, and 1100 Areas). Since the RI Phase I reports for these areas will not be available within one year following the proposal of Hanford to the NPL, these preliminary health assessments will be based on the best available information.

As additional information becomes available, and as appropriate, ATSDR may, at its discretion, expand these preliminary health assessments into full health assessments adding to the overall characterization of the site, or prepare addenda to the health assessments addressing the public health impact of either individual or a combination of operable units at the site.

The health assessments, including any addenda, will become part of the administrative record.

7.8 QUALITY ASSURANCE

The level of quality assurance and quality control (QA/QC) for the

collection, preservation, transportation, and analysis of each sample which is required for implementation of this Agreement shall be dependent upon the data quality objectives for the sample. Such data quality objectives shall be specified in RI/FS or RFI/CMS work plans or in other work plans that may be used to describe sampling and analyses at CERCLA or RCRA-CERCLA past-practice units.

The QA/QC requirements shall range from those necessary for non-laboratory field screening activities to those necessary to support a comprehensive laboratory analysis that will be used in final decision-making.

Based upon the data quality objectives, the DOE shall conduct QA/QC and sampling and analysis activities which are taken to implement the Agreement in accordance with the following EPA documents.

- "Guidance for the Data Quality Objectives Process" (EPA/600/R-96/055 (QA/G-4) 2000 as revised;

- "EPA Requirements for Quality Assurance Project Plans" (EPA/240/B-01/003)(EPA QA/R-5), March 2001 as revised and, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA/SW-846 as amended)

In regard to quality assurance requirements for construction of land disposal facilities, DOE shall prepare permit applications consistent with "Technical Guidance Document: Construction Quality Assurance for Hazardous Waste Land Disposal Facilities" (EPA/530-SW-86-031).

For analytical chemistry and radiological laboratories DOE shall submit laboratory QA/QC plans to EPA and Ecology for review as secondary documents prior to use of that laboratory. In the event that DOE fails to demonstrate to the lead regulatory agency that data generated pursuant to this Agreement was obtained in accordance with the QA/QC requirements of this section, including laboratory QA/QC plans, DOE shall repeat sampling or analysis as required by the lead regulatory agency. Such action by the lead regulatory agency shall not preclude any other action which may be taken pursuant to this Agreement. For other data, the lead regulatory agency may request DOE to provide QA/QC documentation. Any such data that does not meet the QA/QC standards required by this section shall be clearly flagged and noted to indicate this fact.