

## 8.0 FACILITY DECOMMISSIONING PROCESS

### 8.1 INTRODUCTION

The facility decommissioning process defines the approach by which DOE, with involvement of the lead regulatory agencies, will take a facility from operational status to its end state condition (final disposition) at Hanford. This is accomplished by the completion of facility transition, surveillance and maintenance (S&M), and disposition phase activities. The process is designed to integrate DOE-HQ guidance (U. S. Department of Energy, Office of Environmental Restoration, Decommissioning Handbook, DOE/EM-0142D, March 1994, and U. S. Department of Energy, Office of Environmental Management, Decommissioning Resource Manual, DOE/EM-0246, August, 1995, hereafter referred to as the EM-40 Guidance Documents) and to ensure compliance with environmental regulations, including waste management, closure and post closure requirements under RCRA, and remedial and/or removal action requirements under CERCLA.

Facility decommissioning at Hanford will proceed on a priority-based path that results in an expedient and cost efficient transition of facilities to a safe and stable condition that presents no significant threat of release of hazardous substances into the environment and no significant risk to human health and the environment. The methodology allows for cases where higher priority Hanford cleanup activities warrant deferring regulated unit closure actions until prioritization decisions are made to proceed with the disposition phase.

Notwithstanding any other provision of Section 8.0, EPA and Ecology reserve the right to require closure in accordance with Federal and State hazardous waste law, and the Agreement, and to require response or corrective actions in accordance with RCRA and CERCLA and the Agreement, at any time. During the facility decommissioning process, DOE shall comply with all applicable environmental, safety and health, and security requirements.

#### 8.1.1 Background

The DOE consolidated virtually all of its waste management, remedial action and decontamination and decommissioning (D&D) program activities in 1989 into the Office of Environmental Management (EM). Within EM, the Office of Environmental Restoration was assigned responsibility for performing remedial actions, S&M, and dispositioning activities for DOE facilities.

With the down-sizing of both nuclear weapons inventories and nuclear material production capabilities, the DOE-HQ established the Office of Facility Transition in mid-1992. This office is chartered with management of the transition from operational status to shutdown status for the numerous facilities used for nuclear material production or otherwise involved in the DOE nuclear program.

#### 8.1.2 Applicability

This section applies to the transition, the surveillance and maintenance, and/or the disposition of key facilities located on the Hanford Site that are not fully addressed under Section 6.0 (TSD Process) or Section 7.0 (Past-Practice Process) of this Action Plan.

Key Facilities subject to this Section 8.0 process which have been identified by the parties to date include the following: PUREX, PFP, B Plant, FTF, UO<sub>3</sub> Plant, U Plant, REDOX (202-S Building), and DOE's old reactor buildings (specifically: 105-B, 105-C, 105-F, 105-D, 105-DR, 105-H, 105-KE, 105-KW, and 105/109-N buildings). The 105 reactor buildings, UO<sub>3</sub> Plant, U Plant, and REDOX are recognized as already having been transferred to DOE's Environmental Restoration Program. On approval of each facility Surveillance and Maintenance Plan by the Lead Regulatory Agency (see section 8.6), these facilities will be recognized as having entered the surveillance and maintenance phase as described within this section.

Other key facilities that the parties agree are subject to Section 8.0 will be decommissioned in accordance with the provisions of this section and any milestones established specific to those facilities. If there is a conflict between the provisions of this section and of a specific milestone, the provisions of the milestone will prevail. This section does not apply to the following:

- Any waste disposal unit (e.g., crib, pond, ditch, landfill)
- RCRA treatment or storage units either fully closed or scheduled for closure under Section 6.0 that result in the final disposition of the facility, or result in a remaining facility that does not qualify as a "key facility".
- Any facility which is fully addressed as part of a past-practice operable unit under Section 7.0 (i.e., N-area pilot project) or which is addressed under Section 7.0 to a condition which results in a remaining facility that does not qualify as a "key facility".
- Facilities on the Hanford Site that have already been transferred to the ER Program and which will be decommissioned as part of operable unit remediation under Section 7.0 or under DOE authority, unless identified as key facilities by the parties.

Additional key facilities will be identified by the parties on a case by case basis, using the following general criteria:

- Facilities that do not fall into any of the categories summarized in the bullets above,
- Facilities that will undergo a surveillance and maintenance period greater than 180 days with hazardous substances to be left in place,
- Facilities where physical closure actions must be performed in conjunction with facility disposition, and/or
- Facilities that may be addressed in conjunction with any other facility which qualifies as a key facility.

Upon identification as a key facility, EPA and Ecology will designate a lead regulatory agency in accordance with Section 5.6.

Key facilities do not include uncontaminated structures (i.e., contains no hazardous substances), or facilities which are fully dispositioned following a decision to remove them from use.

Only with the agreement of DOE and the lead regulatory agency may key facilities (or portions thereof) be used for alternative beneficial uses, and be addressed independent of Section 8.0.

### 8.1.3 Decommissioning Relationships and Key Planning Documentation

Table 8-1 shows the relationship between phases, processes and key planning documents that support the overall decommissioning process. A general description of key planning documents is included here. Additional information is provided in following text specific to the individual phases. Definitions specific to the facility decommissioning process are included in Appendix A of this document. The process described in Section 9.3 will be used to modify applicable documentation.

**Table 8-1 Decommissioning Process Relationships**

| DECOMMISSIONING PHASES       | FACILITY PROCESSES  | KEY PLANNING DOCUMENTS  |
|------------------------------|---|---|
| Transition                   | Stabilization<br>Deactivation<br>Surveillance<br>Maintenance<br>Decontamination | Project Management Plan (PMP)                                   |
|                              |   | Facility Transition End Point Criteria Document                 |
|                              |   | Preclosure Work Plan  |
|                              |   | Surveillance and Maintenance Plan                               |
| Surveillance and Maintenance | Surveillance<br>Maintenance<br>Deactivation*<br>Decontamination*                | Surveillance and Maintenance Plan                               |
| Disposition                  | Decontamination<br>Dismantlement<br>Entombment<br>Closure<br>Site Restoration   | Decision Document (e.g., Action Memo, ROD, RCRA Closure Plan**) |
|                              |   | Project Design Report   |

\* Completed on a case-by-case basis to further reduce facility surveillance and maintenance expenses.

\*\* RCRA Closure Plan applicable to TSD units within the facility.

Project Management Plan: An internal DOE management plan prepared to aid in governing the successful completion of a project. The Plan defines DOE and DOE contractor organization, and responsibilities for executing the project.

It outlines the work breakdown structure for the activities, clearly identifying the scope of work based on the technical criteria established. This document incorporates cost and schedule planning. The PMP is used to establish cost controls and milestones for tracking and reporting status on key processes and activities from start to finish of the phase. Project Management Plans are prepared during the transition phase.

Facility Transition End Point Criteria Document: A document developed during the transition phase that establishes the physical state of the systems and spaces within the facility to be achieved at the end of the transition phase. This document is used to satisfy programmatic requirements for transition to the S&M phase. The actual condition of the facility at the end of transition will be documented as part of the S&M plan.

Preclosure Work Plan: A document submitted during the transition phase. The preclosure work plan will contain, but is not limited to, elements summarized in Table 8-2. This preclosure work plan is based in part on the facility transition end point criteria document and S&M plan. The transition end point criteria document and the S&M plan are considered part of the preclosure work plan as they pertain to information related to RCRA TSD units.

Surveillance and Maintenance Plan: A document outlining facility specific activities taken to address essential systems monitoring, maintenance and operation requirements necessary at a facility to ensure efficient, cost effective maintenance of the facility in a safe condition that presents no significant threat of release of hazardous substances into the environment and no significant risk to human health and the environment until final disposition is completed.

Project Design Report: The Project Design Report (PDR) is prepared to describe activities during the disposition phase of the facility. The PDR is prepared consistent with Section 7.0 requirements for the remedial design/remedial action phase of the project. The report will contain a definition of the project scope (i.e., goals, objectives, background information, and scope statement), description of specific tasks, cost, and schedule for the completion of disposition. The intent of the report is to identify the basis and provide direction for preparation of detailed work packages or procedures utilized for conducting the project tasks. The contents of the PDR may be submitted as a separate document (i.e., Remedial Design Report) or as part of an overall design document. The lead regulatory agency will be involved in the development of the PDR and have approval in part as appropriate for the final document.

Decision Document: Documentation required to authorize implementation of the disposition phase activities: a) will be prepared in accordance with the provisions of Section 7.0 and the joint policy on Decommissioning of DOE Facilities under CERCLA, and b) will be prepared in accordance with Section 8.8 for any necessary RCRA TSD closure plans. The decision document (e.g., Action Memorandum, Record of Decision, Closure Plan) issued by the lead agency in accordance with Section 7.0 or Section 8.8 of the Action Plan will be the decision document for key facilities and will define the final end states as developed under Section 8.7.1, as well as preliminary cost and schedules.

## **8.2 FACILITY OPERATIONS**

Facility operations precede the decommissioning process and consequently are only briefly addressed in this section. Prior to receiving a formal shutdown notice from DOE-HQ, facilities that do not have a future mission may begin preparing for the transition phase of the decommissioning process. Preparation may include conducting final process vessel clean out runs in order to expedite transition phase activities and to avoid the necessity for operational permitting of process vessels containing hazardous materials for storage and/or treatment following a determination that their contents are dangerous wastes. Facility personnel may also initiate preliminary development of transition end point criteria to describe the physical state of the systems and spaces within the facility at the end of the transition phase. The process of developing transition end point criteria will be structured to specifically incorporate regulatory, tribal and stakeholder input and involvement. Once a shutdown order has been received or a separate agreement is made by the parties, the facility will enter the transition phase as described in Section 8.5.

## **8.3 DECOMMISSIONING PROCESS PLANNING**

The parties agree that sufficient up front planning for facilities that will undergo decommissioning is necessary to support the budget planning process and to facilitate integration and prioritization of decommissioning with other Hanford cleanup efforts. The parties also recognize, however, that there may be unanticipated situations in which it will be necessary to take immediate actions to abate significant threats to human health or the environment.

### **8.3.1 Long-Term Planning**

DOE developed and submitted its long-term facility decommissioning plan covering key Hanford facilities to Ecology and EPA for review in June, 1996. This plan and associated Agreement commitments (including those made pursuant to Section 8.3.2) are expected to aid the parties in addressing overall decommissioning planning for existing and future facilities on the Hanford Site. The plan categorized facilities through a series of key decision-making questions such as the logic process shown in Figure 8-1. The parties recognize that there are a large number of facilities on the Hanford Site. However, many of the facilities are administrative and/or small in nature and will fall into the category of non-key facilities. A listing of these non-key facilities will be maintained for information purposes. Many facilities are associated with and may be addressed as part of a larger facility. In these cases, facility complexes will be identified as one key facility for the purpose of implementing the decommissioning process.

For key facilities subject to the decommissioning process under this section, the plan includes a long-term road map depicting the approximate time periods that the key facilities (or facility complexes) are expected to undergo transition, surveillance and maintenance, and/or disposition. The road map is for use by the parties to assist in the planning process in order to integrate and prioritize work, and is not considered a committed schedule. Such commitments will be established under the Agreement (see Section 8.3.2). This plan will be updated biennially as part of the biennial review (see Section 8.3.3).

| FIGURE 8-1

### 8.3.2 Negotiations

The long-term facility decommissioning plan, as well as pertinent Agreement milestones and associated commitments, will be used by the parties as aids in scheduling future decommissioning related negotiations. Such negotiations will be coordinated with the facility planning phases discussed under Sections 8.5 and 8.7.

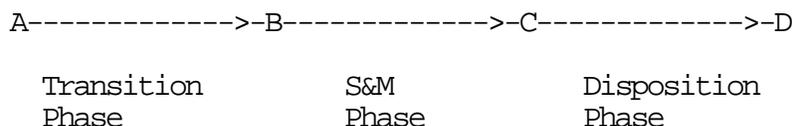
### 8.3.3 Biennial Review and Update

The parties will; (1) conduct a biennial review of facility/unit status, the long-term facility decommissioning plan, and associated Agreement commitments; (2) discuss current priorities; (3) and assess what changes are necessary. Based on this review and the latest DOE guidance associated with the future use of facilities, DOE will update and submit the long-term facility decommissioning plan and any draft changes addressing proposed Agreement modifications to EPA and Ecology.

## 8.4 GENERAL DECOMMISSIONING PROCESS

The typical facility decommissioning process, shown in Figure 8-2, depicts the sequential phases a facility undergoes following facility operations and includes transition, surveillance and maintenance (S&M), and disposition. This process is normally initiated following a decision from DOE-HQ to shut down a subject facility and proceed with decommissioning activities. The process time frame is established by milestones and associated target dates negotiated as part of the Agreement, and in most cases will be established one phase at a time.

**Figure 8-2 Typical Decommissioning Process**



A = Marks the end of the operational phase. A determination has been made by DOE-HQ that the facility is a surplus facility (i.e., formal letter documentation).

B = Marks the end of the transition phase. The preclosure work plan, surveillance & maintenance (S&M) plan and transition end point criteria document are updated as required, and approved by the DOE program responsible for S&M, and by the lead regulatory agency. The DOE review will include a check for transition end point criteria adequacy and equivalency to EM acceptance criteria objectives. Following receipt of necessary approvals, this point marks the start of the S&M phase as an interim period prior to DOE initiation of the disposition phase.

C = Decision to proceed with disposition phase.

D = Completion of disposition phase in compliance with applicable or relevant and appropriate requirements and in a condition protective of human health and the environment. (Note: All associated RCRA closure actions are completed at this point.)

Figure 8-2 has been expanded in Figures 8-3 through 8-5 to include individual process steps involved with each of the subject phases. Figures 8-3 through 8-5 identify actions involving regulatory, tribal, and public involvement, and those actions or documents requiring specific regulatory approval. Agreement negotiations are shown as part of the transition, S&M and disposition phases. More detailed descriptions of individual phases, actions and documentation are discussed in Sections 8.5 through 8.7.

## **8.5 TRANSITION PHASE**

The transition phase of a facility is initiated when a formal shutdown decision is made by DOE. Figure 8-3 shows a breakdown of the activities associated with the transition phase. The numbers shown in the boxes correspond with the section numbering from this document. Discussion specific to RCRA TSD closure plan preparation and submittal is contained in Section 8.8.

### **8.5.1 Transition Planning**

Early in the transition phase, project goals and objectives are developed in conjunction with regulatory, tribal and public input and involvement to enable a mutually agreeable and efficient transition. Vital to the success of this phase is development of transition end point criteria and S&M planning information. Transition end point criteria and S&M planning are discussed in greater detail in Sections 8.5.3 and 8.5.4, respectively. DOE will initiate discussions with the lead regulatory agency, tribes and the public to identify issues and develop proposals within three months of an official shutdown notice decision made by DOE-HQ.

During the transition planning stage, NEPA documentation supporting transition will be initiated as necessary and a preclosure work plan or closure plan will be developed for RCRA TSD units requiring RCRA closure. Where final closure of a unit does not need to be performed in conjunction with key facility disposition, a closure plan will be submitted. Documentation produced during this stage will support protection of human health and the environment and consider waste minimization and pollution prevention opportunities.

### **8.5.2 Project Management Plan**

The Project Management Plan (PMP) is prepared to describe how transition phase activities will be managed. The PMP contains work breakdown structures, cost and schedule information, and summarizes major project targets and Agreement milestones. If necessary, a revision to the PMP will be made at the conclusion of the Agreement negotiations to ensure consistency with scheduling agreements. The process of developing and revising the PMP is depicted in Figure 8-3.

FIGURE 8-3

### 8.5.3 Transition End Point Criteria

DOE-HQ has developed a set of generic acceptance criteria for use complex wide as a target for acceptance into the S&M phase. Based on these generic acceptance criteria, facility specific transition end point criteria are developed throughout the transition phase with intent to establish acceptable final conditions of systems (i.e., tanks, piping) and spaces (i.e., rooms, areas) at the end of the transition phase. In general, the acceptance criteria require:

- documentation for the active systems and structural integrity of the facility,
- updated permitting and documented regulatory status that reflects the shutdown, stabilized condition of the facility,
- documentation of remaining hazardous and radioactive material in the facility,
- documentation of and facility history for the shutdown systems, and
- a DOE approved S&M Plan for the facility.

The transition end point criteria are tailored specifically to the facility in question and are based on the EM acceptance criteria and regulatory, tribal and public input. Transition end point criteria will be developed and documented early in the transition phase in conjunction with discussions with the regulators, tribes and stakeholders to facilitate achieving mutually accepted criteria. Aspects of the criteria may evolve during transition necessitating revisions and refinements to the criteria.

Transition end point criteria are applicable to all facilities, and their equipment and systems accepted into a surveillance and maintenance phase. All transition end point criteria will be initially developed to incorporate regulatory, tribal and stakeholder input and values. However, lead regulatory agency approval over transition end point criteria will be specific to regulated units, and/or hazardous substances proposed to remain in the facility after the transition phase is complete. Transition end point criteria will take the form of a document addressing both regulated and non-regulated equipment and systems. This document will be submitted to the lead regulatory agency in conjunction with the preclosure work plan and S&M plan. Transition end point criteria will be consistent with, and will not prejudice the development of acceptable end state criteria. Changes to approved transition end point criteria will be coordinated with the lead regulatory agency, and approved for changes affecting regulated units and hazardous substances that will remain in the facility.

#### **8.5.4 Surveillance and Maintenance Plan**

A surveillance and maintenance (S&M) plan is developed along with transition end point criteria since the selected transition end point criteria directly dictate actions that will be performed during the S&M phase. The S&M plan describes facility-specific activities to be taken in order to adequately address monitoring, maintenance and operational requirements for the essential systems at a facility. It will ensure that the facility is maintained cost effectively and in a safe, stable condition that presents no significant threat of release of hazardous substances into the environment and no significant risk to human health and the environment until final disposition is completed. Although the S&M plan evolves throughout the transition phase, focused efforts and coordination with the lead regulatory agency, tribes and stakeholders are emphasized early in the transition phase to facilitate a mutually agreeable approach to S&M.

The S&M plan will cover hazardous substances and both regulated and non-regulated equipment and systems. Although the S&M plan will be developed to incorporate regulatory, tribal and stakeholder input and values, lead regulatory agency approval of the S&M plan will be specific to regulated units and hazardous substances in the facility. Post closure care activities will be negotiated with the lead regulatory agency on a case by case basis and incorporated into the S&M plan.

For facilities that contain RCRA TSD units, the S&M plan developed during the transition phase will be submitted to Ecology in conjunction with the preclosure work plan and the latest transition end point criteria document.

#### **8.5.5 Proceed with and Complete Transition Activities**

In accordance with transition planning and Agreement negotiations, internal work plans and procedures are developed to aid accomplishing the facility specific transition phase tasks. Procedures provide operational guidance for the workers to achieve the objectives outlined in the facility transition planning documentation. As systems and spaces reach their identified transition end points, S&M activities are initiated consistent with the S&M plan. At the point where all systems and spaces at the facility achieve their respective transition end point conditions, the facility will await transfer to the S&M phase contingent upon verification of achievement of end point criteria (and acceptance criteria not addressed by the end point criteria). Appropriate records documenting transition related activities will, at a minimum, be maintained through completion of the disposition phase. During the facility decommissioning process, DOE shall comply with all applicable environmental, safety and health, and security requirements.

## **8.6 SURVEILLANCE AND MAINTENANCE PHASE**

The surveillance and maintenance (S&M) phase for facilities is conducted in accordance with the S&M plan developed for each facility. For facilities transitioned under Section 8.5, the S&M Plan is developed as part of the transition phase. For key facilities (See Section 8.1.2), which did not proceed through formal transition, but which have been transferred to DOE's Environmental Restoration Program, S&M Plan(s) will be submitted in accordance with established Agreement milestones. The S&M phase is shown in Figure 8-4. The objectives of the S&M phase are to ensure adequate containment of any contaminants left in place and to provide physical safety and security controls and to maintain the facility in a manner that will present no significant risk to human health or the environment.

S&M plans will be prepared by DOE and will detail facility aspects and associated requirements including the following: (1) surveillance, (2) maintenance, (3) quality assurance, (4) radiological controls, (5) hazardous substance inventory, management and protection, (6) health and safety/emergency preparedness, (7) safeguards and security, and (8) cost and schedule. DOE shall comply with all applicable environmental, safety and health, and security requirements throughout the S&M phase.

### **8.6.1 Initiation of S&M Phase**

The S&M Phase will start after plant operators have verified the transition end points, the lead regulatory agency and DOE-HQ have received the verification, and all appropriate approvals have been received. Initiation of the S&M phase is shown as the first box in Figure 8-4.

### **8.6.2 Biennial Evaluations of Disposition Priorities**

Throughout the S&M phase, biennial evaluations of long term S&M and disposition plans and schedules will be performed. These evaluations will be performed in conjunction with the biennial reviews discussed in Section 8.3.3 and Agreement negotiations to identify, evaluate and assess the status of Hanford Site priorities as well as tribal and stakeholder values. S&M surplus facilities will be included in the evaluation of disposition priorities.

### **8.6.3 Ongoing S&M Activities**

Ongoing S&M activities will be conducted in accordance with the approved S&M plan and associated Agreement commitments until a decision is made by DOE-HQ to initiate the disposition phase, or actions are required by the lead regulatory agency pursuant to the terms of Sections 8.3.3 or 8.1.

## **8.7 DISPOSITION PHASE**

The disposition phase is initiated following a decision by DOE-HQ, or may result from a decision by the lead regulatory agency pursuant to the terms of Section 8.1. Figure 8-5 shows a breakdown of the activities associated with the disposition phase. The numbers identified in the boxes correspond with applicable discussion below. Discussion specific to closure plan revision is deferred to Section 8.8.

FIGURE 8-4

### **8.7.1 Disposition Phase Planning**

Early in the disposition phase, project goals and objectives are developed in conjunction with lead regulatory agency, tribal and public input and involvement to enable a mutually agreeable and efficient disposition of the facility. A cooperative effort among all parties will be required in order to establish and revise the disposition end state consistent with applicable requirements. DOE will initiate discussions with the lead regulatory agency, tribes and public to identify issues, evaluate alternatives, and develop a proposed disposition alternative to meet defined end states.

The facility specific disposition end states are developed during the disposition planning phase with the intent to establish the ultimate acceptable condition of systems and spaces at the end of the disposition phase. Disposition end states will be developed and documented early in the disposition phase in conjunction with the lead regulatory agency, tribes and stakeholders to facilitate mutually acceptable criteria. Aspects of the end states that pertain to RCRA TSD units and/or hazardous substances shall be developed, revised or refined only with the approval of the lead regulatory agency.

Disposition end states will be initially developed to incorporate lead regulatory agency and stakeholder input and values. The disposition end states will be contained in a document covering hazardous substances and both regulated and non-regulated equipment and systems. The lead regulatory agency will have approval authority over disposition end states for regulated RCRA TSD units and hazardous substances. This document (e.g., EE/CA, Proposed Plan) will be prepared in accordance with Section 7.0 and will be submitted to the lead regulatory agency in conjunction with any necessary closure plan. The final draft Closure Plan for RCRA TSD units will be submitted for public review and comment at the same time as the disposition planning document. DOE and the lead regulatory agency may establish Agreement commitments during the planning phase to be incorporated into the decision documentation in Section 8.7.2.

### **8.7.2 Decision Documents**

Documentation required to authorize implementation of the disposition phase activities: a) will be prepared in accordance with the provisions of Section 7.0 and the joint policy on Decommissioning of DOE Facilities under CERCLA, and b) any necessary closure plans for RCRA TSD units will be prepared in accordance with Section 8.8. The decision document (e.g., Action Memorandum, Record of Decision, Closure Plan) issued in accordance with Section 7.0 or Section 8.8 of the Action Plan will define the final end states as developed under Section 8.7.1, as well as preliminary cost and schedules.

FIGURE 8-5

### **8.7.3 Project Design Report**

The Project Design Report (PDR) is prepared to describe activities during the disposition phase of the facility. The PDR is prepared consistent with Section 7.0 requirements for the remedial design/remedial action phase of the project. The report will contain a definition of the project scope (i.e., goals, objectives, background information, and scope statement), description of specific tasks, cost, and schedule for the completion of disposition. The intent of the report is to identify the basis and provide direction for preparation of detailed work packages or procedures utilized for conducting the project tasks. The contents of the PDR may be submitted as a separate document (i.e., Remedial Design Report) or as part of an overall design document. The lead regulatory agency will be involved in the development of the PDR and have approval in part to ensure consistency with the final decision document.

### **8.7.4 Proceed with and Complete Disposition Phase Activities**

In accordance with disposition planning and associated Agreement commitments, implementing documentation will be developed to accomplish facility-specific disposition phase tasks. Detailed work packages and procedures provide operational guidance for the workers to satisfy the objectives outlined in the disposition planning documentation. At the point where all systems and spaces at the facility achieve their respective disposition end state condition, final disposition is achieved and the end states will be verified. Appropriate records documenting transition and closure related activities will be maintained on file. During the disposition phase, DOE shall comply with applicable environmental law, safety and health, and security requirements.

### **8.7.5 Verification of Disposition End State**

During the closeout and verification of the disposition phase, achievement of disposition end state criteria will be verified. DOE will perform verification surveys and sampling. Verification will specifically tie to closure planning requirements for applicable regulated units. All verification results, regardless of the methods used, will be available to the public.

### **8.7.6 Integration of Disposition Phase with Operable Units**

As shown on Figure 8-1, some facilities will be addressed fully in conjunction with operable unit activities under Agreement Section 7.0 or under DOE authority. These facilities are not covered by this Section 8.0. For key facilities that are only partially addressed as part of an operable unit activity, the remaining disposition phase activities will be planned and conducted under this section. This may include the management of soil contamination not accessible during the operable unit activity.

In the event disposition of a key facility proceeds prior to operable unit activity, the disposition of any contaminated soils and site restoration activities may be deferred to follow-on operable unit activities conducted under Section 7.0. Any such agreement will be documented in writing and approved by the DOE and Lead Regulatory Agency executive managers.

## **8.8 PRECLOSURE WORK PLAN AND RCRA CLOSURE PLAN**

Washington's HWMA and associated regulations contained in Chapter 173-303 WAC require owners or operators of dangerous waste treatment, storage or disposal facilities to have a written and approved closure plan. DOE, Ecology and EPA have established a mutually acceptable closure plan format that is being used currently for Hanford Site closure plans. The basic closure plan format contains the following nine chapters: 1) Introduction, 2) Facility Description, 3) Process Information, 4) Waste Characteristics, 5) Groundwater Monitoring, 6) Closure Strategy and Performance Standards, 7) Closure Activities, 8) Postclosure Plan, and 9) References.

The nature of the decommissioning process has led DOE, Ecology and EPA to evaluate the timing of RCRA closure at key facilities. The phased decommissioning process combined with the requirements of NEPA and future land use determinations will often make completion of RCRA closure activities during the transition or S&M phases impracticable. In cases where timely completion of RCRA TSD unit closure is practicable, DOE will prepare, and submit to Ecology for review and approval, a complete closure plan for implementation during the transition phase. In cases where physical conditions and/or unknowns prevent timely completion of closure, DOE will prepare, and submit to Ecology for review and approval, a preclosure work plan for implementation during the transition phase. The preclosure work plan will detail actions to be completed during the transition phase in order to facilitate full RCRA closure in the future. These efforts may include removal of dangerous wastes and hazardous substances and/or removal or decontamination of equipment or structures contaminated with dangerous wastes or hazardous substances. The content of the preclosure work plan and its relationship to the RCRA closure plan are summarized in Table 8-2. The transition phase will not be considered complete until DOE has either completed RCRA closure and/or implemented a lead regulatory agency approved preclosure work plan. In cases where closure is not completed during the transition phase, the S&M plan for the key facility will address RCRA compliance. It is anticipated that, for such units, RCRA closure will be conducted during the disposition phase, however, Ecology may, at any time, choose to accelerate closure timing and/or initiate final closure in order to assure timely protection of human health and the environment. Agreement negotiations during the transition and disposition phases will establish Agreement milestones and target dates applicable to preclosure and closure activities.

In addition to its review and approval of RCRA closure plans and preclosure work plans, the lead regulatory agency will have approval authority in establishing acceptable transition end point criteria and disposition end states for hazardous substances and associated facility systems and spaces. The transition end point criteria document and/or disposition end states will be submitted to the lead regulatory agency with closure plans and/or preclosure work plans during the transition and/or disposition phases as appropriate (e.g., if closure will occur during the transition phase, the transition end point criteria document will be submitted with the RCRA closure plan). The lead regulatory agency will also have involvement in and receive an S&M plan for each key facility. The S&M plan will be developed by DOE and submitted to the lead regulatory agency during the transition phase in conjunction with the transition end point criteria document and closure plan or preclosure work plan. When approved, the S&M Plan will document any hazardous substances to be left at the facility during the S&M phase.

Table 8-2 Preclosure Work Plan and Closure Plan Elements \*

| Cpt | Description                                | Preclosure Work Plan Submitted During Transition Phase  | Closure Plan on Submittal, e.g., During Disposition Phase   |
|-----|--|---|---|
| 1   | Introduction                               | ALL   | ALL   |
| 2   | Facility Description                       | ALL   | ALL   |
| 3   | Process Information                        | ALL   | ALL   |
| 4   | Waste Characteristics                      | ALL   | ALL   |
| 5   | Groundwater Monitoring                     | Documents the nature and extent of groundwater contamination that has occurred and describes actions necessary during the S&M phase   | Documents details of groundwater investigation, necessary remediation and monitoring (may be conducted in conjunction with applicable CERCLA operable unit and RI/FS process)   |
| 6   | Closure Strategy and Performance Standards | Documents the preclosure strategy, end point criteria performance standards and necessary transition phase preclosure activities. This chapter will contain a qualitative assessment of anticipated closure and postclosure outcomes, if known (i.e., clean closure or otherwise) | Remaining details including closure of secondary containment, end state of systems and material left in place, final disposition of vessels, end state of canyon structures and integration with CERCLA remedial activities. Includes cross references to surveillance and maintenance plan |
| 7   | Closure Activities                         | Detailed description of any closure activities and schedule(s)  | Describes the remaining closure information/activities related to disposition phase   |
| 8   | Postclosure Plan                           | Postclosure activities will be addressed to the extent known  | Detailed Postclosure plan if decision is made to leave waste in place   |
| 9   | References                                 | Includes references used in transition phase of the preclosure work plan  | Includes all remaining references   |

\* Requirements of a RCRA closure plan are specified in 40 CFR 264 and Chapter 173-303 WAC, and are only briefly summarized here

**Current as of July 23, 2007**