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<b>Change Number</b> M-45-06-03	<b>Federal Facility Agreement and Consent Order  Change Control Form</b> Do not use blue ink. Type or print using black ink.	<b>Date</b> 07/24/07
<b>Originator</b> US DOE-ORP		<b>Phone</b>
<b>Class of Change</b> <input type="checkbox"/> I - Signatories <input checked="" type="checkbox"/> II - Executive Manager <input type="checkbox"/> III - Project Manager		
<b>Change Title</b> Modification of Tank Farm Corrective Measures and Interim Measures milestones.		
<b>Description/Justification of Change</b> <p>This HFFACO modification establishes an updated plan and process for finalizing Phase 1 corrective action characterization and interim measure studies, and leads the Tri-Parties towards the development of a clear vision for the planning and execution of Phase 2 final corrective action characterization, corrective measures studies, implementation of certain interim measures and integration of corrective measures with other site ground water and vadose zone clean up efforts on the Hanford Central Plateau.</p> <p>This change package establishes a framework for completion of corrective measures within C-Farm and a Phase 2 Tank Farm Corrective Action Master Work Plan to define the overall corrective action completion approach and sequence for other tank farms.</p> <p>Other modifications in this change package include:</p> <p>M-45-55-T04, the Field Investigation Report (FIR), is herein combined with M-45-55, the RCRA Facility Investigation (RFI) rollup. The schedule for completion of the RFI is modified to allow for additional field soil characterization and analysis of data to be obtained. New characterization technologies developed during Phase 1 of this milestone series provide improved data quality and cost reduction. The use of Surface Geophysical Exploration and Direct Push technologies have been presented to regulatory staff for use in data collection prior to proceeding with corrective measures planning. The deployment of new technologies and analysis of the data extends the duration of the time needed to collect data for the FIR. Consolidation of the FIR and RFI reduces the amount of time required for document preparation and reporting information needed in target date M-45-55-T04 and milestone M-45-55.</p> <p>Although milestone M-45-55 (RFI Report) and target date M-45-55-T04 (A-AX, C, and U FIR) delivery dates of January 2007 and April 2006, respectively, were not met, the proposed modifications to these deliverables and the justifications for not meeting these dates were discussed with and supported by the lead technical staff of Ecology. As mentioned above, these changes are being made to ensure the development of a defensible and effective RCRA Corrective Action process within the Tank Farms.</p> <p>New milestones are created to track progress towards completion of the RCRA Corrective Actions in WMA C. These milestones include WMA C Phase RCRA Facility Investigation (M-45-61) and WMA C Corrective Measures implementation Work Plan.(M-45-62).</p>		
<b>Impact of Change</b> <ul style="list-style-type: none"> <li>o The scope of M-45-55-T04 is combined with M-45-55 (RFI Roll Up) to reduce duplicative reporting.</li> <li>o The schedule for completion of the RFI Roll Up is deferred to allow for additional technical information to be included (M-45-55).</li> <li>o The Phase 2 C-Farm RCRA Facility Investigation/ Corrective Measures Study is moved to M-45-61 and replaced with a Master Work Plan describing the approach for all Waste Management Areas (M-45-58).</li> <li>o A revised milestone is added for submittal of WMA C Phase 2 RFI/CMS Work Plan and Sampling and Analytical</li> </ul>		

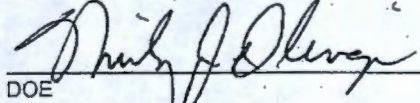
Plan (M-45-60).

- o A new milestone is added for submittal of the Phase 2 RCRA RFI/CMS for WMA C (M-45-61).
- o A new milestone is added for submittal of the WMA C Corrective Measures Implementation Plan (M-45-62).
- o HFFACO Appendix I, Section 2.3 is modified to describe the contents of the Phase II RCRA Corrective Action Master Work Plan.

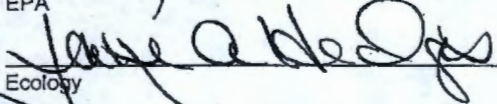
**Affected Documents**

The Hanford Federal Facility Agreement and Consent Order (Agreement) as amended.

**Approvals**

 11/14/07  Approved  Disapproved  
DOE Date

\_\_\_\_\_  Approved  Disapproved  
EPA Date

 12/4/07  Approved  Disapproved  
Ecology Date

Modifications to existing Tri-Party Agreement milestones are denoted with ~~strikethrough~~; new milestones/text are denoted with ~~blacked out~~.

NOTE: This Change Request does not reflect changes in Change Request M-45-07-01

## APPENDIX I

### SINGLE-SHELL TANK SYSTEM WASTE RETRIEVAL AND CLOSURE PROCESS

#### 1.0 PURPOSE AND INTRODUCTION

The purpose of this Agreement Appendix I is to:

1. Document the process DOE is required to use to close DOE's SST system (i.e., the SSTs themselves; and associated ancillary equipment including waste transfer piping, valve pits, vaults, etc.; contaminated soils, and contaminated groundwater<sup>1</sup>) including the retrieval of tank wastes. The major phases of this closure process under the HWMA are: Tank waste retrieval; SST system, WMA and component closure including WMA corrective actions; and groundwater actions. Groundwater remedial actions and investigations will be conducted under past practice authority consistent with the Hanford Site Wide RCRA permit condition II.Y.2 and WAC 173-303-645. Groundwater investigations conducted under past practice authority will be coordinated with any investigations that may be conducted as part of the SST corrective action/closure process. The process also documents the Parties' recognition that SST WMA closure and other Central Plateau waste site cleanup activities via compliance with federal and state requirements need integration<sup>2</sup> (reference Agreement Section 5.5). Specific SST WMA closure objectives and standards will be delineated in *Hazardous Waste Management Act* (HWMA) closure plans.
2. To establish and document the agencies' waste retrieval and closure process consistent with that defined in Washington Administrative Code (WAC) 173-303-610 and -640 for closure of all DOE's SST systems (tanks, ancillary equipment, soil, and groundwater).

DOE, Ecology and EPA expect that this process will standardize Agreement requirements for SST system closure and to support future post-closure requirements. The process requires the submittal of Agreement primary documents that establish enforceable requirements and schedules in lieu of multiple Agreement milestones. This process further serves as a mechanism to identify and establish requirements to be used throughout the SST system. These requirements include:

- Creating criteria to be used to define the sequence of SSTs selected for retrieval and subsequent closure actions, and
- The process to be utilized in retrieving wastes and closing components of the SST system.

#### 2.0 SST SYSTEM WASTE RETRIEVAL AND CLOSURE PROCESS

Figure I-1 depicts the process DOE is required to follow during SST WMA waste retrieval and closure. It identifies four main areas of emphasis: Tank waste retrieval; SST system, WMA and component closure, including WMA corrective action; and groundwater actions. These areas are discussed in greater detail in the following sections of this appendix. Each box within Figure I-1 identifies an action needed to achieve closure of the SST system. Actions or deliverables requiring approval by Ecology are identified.

<sup>1</sup> The DOE and Ecology have grouped the SST system into seven WMAs: WMA A-AX; WMA B-BX-BY; WMA C; WMA S-SX; WMA T; WMA TX-TY; and WMA U.

<sup>2</sup> For the purpose of this M-45-04-01 Change Request the terms integrate and integration mean to coordinate for the purposes of efficiency and effectiveness. Such terms have no effect on respective agency authority, requirements, or responsibilities.



## 2.1 TANK WASTE RETRIEVAL

Waste retrieval is a major activity in the process of SST system closure. Criteria applicable to SST waste retrieval activities, as stated in Milestone M-45-00, are: "...retrieval of as much waste as technically possible, with tank residues not to exceed 360 cubic feet (cu. ft.) in each of the 100-series tanks, 30 cu. ft. in each of the 200-series tanks, or the limit of waste retrieval technology capability, whichever is less." If these waste retrieval criteria are not met for a specific tank using the selected technology(s), DOE may use the procedure delineated in Agreement Appendix H to request Ecology approval of an exception to the waste retrieval criteria for that specific tank.

The Parties' waste retrieval and closure process is described in the following sections:

### 2.1.1 Waste Management Area Integration Study

For each SST tank farm (or WMA), DOE shall submit a WMA integration study. This study shall look at the entire WMA from a system perspective and describe the inter-relationships between the various components. The study shall describe a logical sequence of events that would lead to efficient and effective waste retrieval and closure of the WMA, including field sampling and characterization activities of the ancillary equipment (piping, valve pits, vaults, IMUSTs, diversion boxes, etc.). This study will be used in the development of the WMA closure plan. The document will propose a regulatory path for all ancillary equipment in that WMA and all the activities to achieve efficient and effective closure of that WMA, including:

- SSTs
- SST system ancillary equipment
- Soil remediation per WMA corrective actions and proposed plans for WMA soils
- Activities necessary for integration with Central Plateau groundwater remediation.

It is anticipated that tank waste will need to be retrieved from ancillary equipment in order to meet the closure requirements of WAC 173-303-610 and -640. The criteria for these retrievals will be governed by those regulations.

The submittal of WMA integration studies will be scheduled through the Milestone M-45 series.

### 2.1.2 Tank Retrieval Selection and Sequencing

The initial phase of SST system tank waste retrieval extends to that point in time when double-shell tank (DST) waste begins to be transferred to the WTP pursuant to Milestone M-62-09. During this phase, DST capacity will be a major factor in DOE's ability to retrieve SST waste. DOE will perform space acquisition and/or optimization activities as required by the Agreement's Milestone M-46 series in order to maximize available DST space. In addition, DOE will perform SST tank waste retrievals to maximally utilize DST space available for retrieval. The second phase of waste retrieval begins when DST capacity is again made available (to receive more SST waste) as DST waste is transferred to WTP for treatment.

SST tank waste retrieval selection and sequencing will be performed on a biennial basis in accordance with the following steps:

- DOE will develop its SST tank retrieval selection and sequence document as a primary document for approval by Ecology in accordance with the Milestone M-45-02 series. The pool of tanks selected by this document will be used as the starting point for selecting and scheduling the following two years' tank waste retrieval activities
- The primary objectives and prioritization criteria for SST tank retrieval selection and sequence are to maximize the reduction of short-term and long-term risk to human health and the environment, and to optimize waste feed so as to maintain efficient WTP operations
- Additional criteria that will be considered in tank selection and that may result in lower risk tanks being retrieved first, include:
  - Worker safety

- Supporting the completion of WMA closures
- The optimization of DST space utilization considering resource leveling and waste transfer infrastructure
- Waste retrieval and closure requirements for associated ancillary equipment.
- Annually, the Parties will agree on which SSTs are to be retrieved during the coming year from the pool of tanks approved by Ecology through the SST tank retrieval selection and sequencing document
- To maintain optimal operational efficiency, DOE may request approval of changes to the selection of tanks to be retrieved in a certain year. In such cases DOE will propose the new tank(s) from the pool approved by Ecology in the tank sequencing and selection document.

### 2.1.3 Tank Waste Retrieval Work Plans

Tank waste retrieval work plans (TWRWP) will be submitted to Ecology as Agreement primary documents for a tank or set of tanks and their associated ancillary equipment. TWRWPs may cover tanks, tanks and associated ancillary equipment, or ancillary equipment alone (as may be required). TWRWPs will address only those actions associated with waste retrieval. Processes not covered by a TWRWP will be addressed by separate permitting actions as applicable. These TWRWPs, although expanded in scope by this Appendix I, were formerly identified as the Parties' functions and requirements documents in the various Milestone M-45 series. Work plans will include the following information:

- Tank(s) and/or ancillary equipment condition and configuration
- Retrieval technology or technologies and rationale for selection to meet Agreement Milestone M-45-00 criteria for tanks and regulatory requirements for ancillary equipment
- Leak detection monitoring and mitigation (LDMM) plan, including technology description, rationale for selection, configuration, inspection and monitoring requirements, mitigation response, and anticipated performance goals
- Operational requirements during retrieval
- A pre-retrieval risk assessment of potential residuals, consideration of past leaks, and potential leaks during retrieval, based on available data and the most sophisticated analysis available at the time. The purpose of this risk assessment is to aid operational decisions during retrieval activities. This risk assessment will not be used to make final retrieval or closure decisions. Minimally it will contain the following:
  - Long-term human health risks associated with potential leaks during retrieval and potential residual waste after completion of retrieval:
    - Potential impacts to groundwater, including a WMA-level risk assessment
    - Potential impacts based on an intruder scenario.
  - Process management responses to a leak during retrieval and estimated potential leak volume
  - The pre-retrieval risk analysis will be based on the following criteria:
    - Using the WMA fence line for point of compliance
    - Identify the primary indicator contaminants (accounting for at least 95% of impact to groundwater risk) and provide the incremental lifetime cancer risk (ILCR) and hazard index (HI)
    - Using ILCR and HI for the industrial and residential human scenarios as the risk metric
    - Calculated concentration(s) of primary indicator contaminant(s) in groundwater (mg/L, and pCi/L).
- Functions and associated requirements necessary to support design of proposed waste retrieval and LDMM system(s)
- Preliminary isolation evaluation including list of ancillary equipment associated with the specific component, plans for ancillary equipment removal or waste retrieval, available characterization information for waste contained within ancillary equipment, and anticipated interrelated impacts of various retrieval actions
- Retrieval start dates for each component.

Submittal of the TWRWP will be accompanied by a provisional schedule for informational purposes. The provisional schedule will include design, construction, and field retrieval activities.

Any TWRWP that identifies the use of new aboveground tanks, tank systems or treatment systems (not otherwise permitted), will require the following additional information:

- General arrangement diagrams
- System description
- Piping and instrumentation drawings (P&ID) for the retrieval system

- Process flow diagrams
- Information to demonstrate compliance with WAC 173-303-640
- Describe the disposition of the system at completion of the retrieval.

These new aboveground tanks, tank systems or treatment systems may be operated only during the retrieval duration.

DOE will not begin retrieval activities (i.e. start of the retrieval system installation) until the TWRWP for a particular tank or component has been approved by Ecology, or a separate approval has been requested by DOE and given by Ecology. SST waste retrieval will be completed to achieve Agreement criteria within 12 months of the start date(s) established in the TWRWP. The Parties' working assumption is that upon completion of the work described in the TWRWP, DOE will have met the tank waste retrieval criteria of Milestone M-45-00 for tanks, and the regulatory requirements for ancillary equipment.

The Parties recognize that DOE may be required by Ecology to perform additional retrieval activities depending on the results of the initial retrieval activities, residual waste characterization and risk assessments, or in the event of Ecology disapproval of a request for an exception under Appendix H. Ecology reserves the right to require additional retrieval activities if necessary.

#### **2.1.4 Retrieval System(s) Design & Construction**

After selecting the waste retrieval technology or technologies for a tank, group of tanks, and/or ancillary equipment, DOE will complete the design and construction of the retrieval system(s) based on the functions and requirements developed in the TWRWP. This retrieval system design will include as a minimum:

- Final design specifications
- Quality assurance process
- Acceptance test plans and operational test plans
- Process control plan.

#### **2.1.5 Waste Retrieval**

Field retrieval activities will be started consistent with the requirements and retrieval start dates approved in the TWRWP. DOE will implement all the requirements, processes and schedules approved in the TWRWP, including LDMM activities, throughout the retrieval.

DOE will complete SST waste retrieval activities meeting Agreement criteria of Milestone M-45-00, and ancillary equipment waste retrieval activities meeting regulatory requirements, within 12 months of the retrieval start date(s) approved in the TWRWP.

#### **2.1.6 Residual Tank Waste Characterization**

Before tank waste field retrieval activities are initiated, DOE will develop a tank or component specific retrieval data quality objectives (DQO) document for the residual tank waste characterization in coordination with Ecology. As part of the DQO process, DOE will also develop a sampling and analysis plan for post-retrieval and closure sampling.

#### **2.1.7 Retrieval Data Report/Appendix H Request for Exception**

Once DOE has completed the retrieval actions described in the TWRWP, DOE will either complete and submit to Ecology within 120 days its retrieval data report, or a request for exception to retrieval criteria per Agreement Appendix H. The Appendix H option is only applicable for SSTs and the requirements of that request are identified in Agreement Appendix H, Attachment 2.

As a minimum, DOE's retrieval data report will include:

- Residual tank waste volume measurement, including associated calculations
- The results of residual tank waste characterization
- Retrieval technology performance documentation
- DOE's updated post-retrieval risk assessment
- Discussion of feasibility/viability of other available retrieval technologies, the feasibility of developing additional retrieval technologies, associated detailed cost estimates and amount of additional waste that could be removed
- Opportunities and actions being taken to refine or develop tank waste retrieval technologies, based on lessons learned
- LDMM monitoring and performance results
- DOE's recommendation for further action and proposed schedule(s).

Data from this report will be used by Ecology and DOE in making WMA-, tank-, and component-specific closure decisions. Single or multiple tank and component actions will be included in this report as appropriate.

## 2.2 SST SYSTEM COMPONENT AND WMA CLOSURE

### 2.2.1 SST System Closure Plan Development

As shown in Figure I-1, SST waste retrieval will occur prior to or in parallel with approval of modifications to the SST system closure plan. At the latest, DOE shall submit a certified component(s) closure activity plan with its retrieval data package or its Appendix H exception request. As noted in Sections 2.3 and 2.4, *Resource Conservation and Recovery Act of 1976 (RCRA)* corrective action authority may be used to develop proposed final actions for some SST system components with approval to occur by Ecology through incorporation of the component closure plans into the Site-Wide Permit.

The SST system closure plan consists of three main sections that are arranged in a hierarchy. The highest-level plan (Tier 1) documents requirements pertaining to the SST system overall and is commonly referred to as the "Framework Plan." Mid-level plans (Tier 2) document requirements pertaining to each of the seven SST WMAs and are termed WMA closure action plans. The lowest level plan (Tier 3) documents requirements pertaining to the closure of individual SSTs, and to the closure of individual ancillary equipment components within a particular WMA. These plans are termed component closure activity plans.

The Hanford Site Hazardous Waste Facility Permit modification process from submittal of initial plans (Revision 0) through public review and issuance of the modification is detailed in Agreement Section 9.2.2. It is expected that review time will become shorter as more SST waste retrieval and closure actions or sets of actions are completed due to experience gained and comparability of scope. Therefore, the Ecology and DOE may develop alternative schedules for permit processing to that appearing at Agreement Table 9-2. Agreements on any alternative schedules will be approved by the Ecology and DOE and included in the Administrative Record.

### 2.2.2 Ancillary Equipment Closure Actions

SST ancillary equipment will be closed in accordance with WAC 173-303-610 with associated requirements incorporated into the Site-Wide Permit through the component closure activity plans. Regulatory processes used to assess and develop necessary closure requirements for the wide range and location of ancillary equipment may differ depending upon efficiencies that may be gained through integration with other site activities. For example, large ancillary equipment such as vaults or IMUSTs are similar to SSTs and may contain a waste inventory requiring large-scale retrieval actions. Closure of these types of components is expected to be defined as part of a Tier 3 component closure activity plan. Closure of selected ancillary equipment components that are smaller, have less inventory, and that are closely coupled to actual or potential soil contamination may or may not be addressed through the corrective action process in association with adjacent contaminated soil (Section 2.3). Further, RCRA closure of ancillary equipment that is outside of a WMA boundary may or may not be accomplished in tandem with the remedial action for the operable unit within which it

resides. For example, where a *Comprehensive Environmental Response, Compensation and Liability Act of 1980* (CERCLA) action is occurring outside of a WMA, but within a large geographic area that also contains SST system ancillary equipment, it may be logical to clean up/close these components in coordination with the rest of the waste sites and structures in the area in accordance with the process described in Agreement Section 5.5. In all cases, SST ancillary

equipment will be closed to meet the requirements of WAC 173-303-610. The closure decisions will be made through the component closure activity plans that are incorporated into the Site-Wide Permit.

The extent to which Ecology will use the RCRA corrective action process to fulfill the requirements of WAC 173-303-610 will be selected through approval of the WMA Closure Action Plans.

### 2.3 WMA CORRECTIVE ACTIONS

Closure decisions for SST system soils will be made through the RCRA corrective action process pursuant to Agreement Milestones M-45-55 through -620 and its established process for the development of interim measures where appropriate, RCRA facility investigation/corrective measures study (RFI/CMS) work plans, remedial field investigations, and corrective measures studies. It is expected that the Phase 1 corrective action process required by the specified milestones will result in adequate characterization to make final closure decisions. Ecology reserves the right to require additional characterization either through a Phase 2 corrective action process or through the development of a component closure activity plan if additional characterization is required.

A Phase 2 corrective action process Master Work Plan will describe the overall corrective action conceptual process and sequencing approach for all single shell tank farms. The milestones outlining defining the corrective action schedule for WMA C are shown in milestones M-45-60, -61, & -62. Elements of the Phase 2 Master Work Plan will include:

- Discussion of the approach to complete the Phase 2 data quality objective process including confirmation of developmental characterization tools such as high resolution resistivity (HRR or Subsurface Geophysical Evaluation [SGE]).
- Discussion of integration with the groundwater program, tank closure and adjacent operable units, as appropriate.
- Discussion of the WMA approach to corrective action and closure.
- Selection criteria for implementing Phase 2 RCRA corrective actions at subsequent WMAs.

It is expected that in some cases, the RCRA corrective action process will be used to investigate and analyze alternatives for remediation of selected soils/ancillary equipment. The regulatory process to be used to satisfy closure requirements for each ancillary equipment component will be selected through approval of the WMA closure action plan and incorporated into the Site-Wide Permit.

### 2.4 GROUNDWATER REMEDIAL ACTIONS

Ecology, as the lead agency for SST system closure, EPA, and DOE are electing to investigate and remediate groundwater under past practice authority. The information generated through the groundwater RI/FS or RFI/CMS process will be utilized in the development of SST system closure plans and performance assessment. Integration of CERCLA authority concurrently with RCRA closure and corrective action requirements, will allow Ecology and EPA to address all regulatory and environmental obligations associated with contaminated groundwater regardless of the types of contaminants of concern being addressed.

There are four past-practice operable units that are affected by DOE's SST system; 200-PO-1, 200-UP-1, 200-ZP-1 and 200-BP-5. Ecology, EPA and DOE agree that past-practice authority provides the most efficient means for addressing mixed-waste groundwater contamination plumes in these operable units which originate from a combination of TSD and past-practice units. However, in order to ensure that TSD units within the operable units are brought into compliance with RCRA and State of Washington hazardous waste regulations, Ecology intends, subject to part four of the Agreement, that all response or corrective actions, excluding situations where there is an imminent threat to the public health or environment as described in Section 7.2.3, will be conducted in a manner which ensures compliance with the technical requirements of the HWMA (Chapter 70.105 RCW and its implementation regulations). In any case, the Parties agree that

CERCLA remedial actions will comply with requirements to meet applicable or relevant and appropriate requirements. Notwithstanding this operating assumption, Ecology reserves the right to require groundwater response actions consistent with Ecology's corrective action authority under the HWMA.

## 2.5 PERFORMANCE ASSESSMENT

Ecology, as the lead agency for SST system closure, EPA, and DOE have elected to develop and maintain as part of the SST system closure plan one performance assessment for the purposes of evaluating whether SST system closure conditions are protective of human health and the environment for all contaminants of concern, both radiological and nonradiological. DOE intends that this performance assessment (PA) will document by reference relevant performance requirements defined by RCRA, HWMA, *Clean Water Act*, *Safe Drinking Water Act*, and the *Atomic Energy Act of 1954* (AEA) and any other performance requirements that might be ARARs under CERCLA. The PA is of larger scope than a risk assessment required solely for nonradiological contaminants. The PA is expected to provide a single source of information that DOE can use to satisfy potentially duplicative functional and/or documentation requirements. A PA will be developed for each WMA and will incorporate the latest information available. These PAs will be approved by Ecology and DOE pursuant to their respective authorities. For Ecology approval means incorporation by reference, into the Site-Wide Permit through the closure plans.

As individual components are retrieved or characterized, or other component closure activities are completed, the resulting component characterization information will be incorporated into the WMA PA to determine its relative risk compared to the entire WMA performance. In doing this, the Parties will be able to make interim closure decisions for individual components. Initially, the WMA PA will be based on assumptions and available data describing component characterization information. As each WMA proceeds toward closure, its respective PA will be updated to address all pertinent new results and findings – and will, as a minimum, incorporate the following results as they become available: actual volumes of tank waste residuals left after retrieval, results of leak investigations, new geologic and ancillary equipment waste characterization information, and the results of new barrier and tank residual stabilization and fill performance studies and tests. Final WMA closure decisions will be made after all components are retrieved and/or characterized, and all other component closure activities have been completed and a final WMA PA is completed.

## 3.0 SST SYSTEM CLOSURE/INTEGRATION WITH OTHER CENTRAL PLATEAU ACTIVITIES

### 3.1 SST SYSTEM CLOSURE REGULATORY INTEGRATION STRATEGY

DOE is the responsible agency for the closure of all SST WMAs through post closure, in close coordination with other closure and cleanup activities of the Central Plateau. Washington State has a state program that is authorized under RCRA and implemented through the HWMA and its associated regulations; therefore, Ecology is the lead regulatory agency responsible for the closure of the SST system. EPA is the support regulatory agency providing oversight of the state's authorized program. The 200 Areas of the Hanford Site have been placed by EPA on the National Priorities List (NPL). The completion of remediation of the 200 Areas overall will eventually be finalized via CERCLA decisions made by the EPA, and permitting decisions made by Ecology.

The Parties acknowledge the need for SST system closure in a manner integrating RCRA treatment, storage, and disposal (TSD) closure requirements (including RCRA corrective action requirements), the closure requirements of the AEA, and Central Plateau CERCLA remedial action requirements in order to achieve a cohesive and effective approach to SST system closure ensuring that regulatory requirements are met. The Parties' expect that this Agreement Appendix I will incorporate Agreement Section 5.5 processes to provide a mechanism for avoiding duplicative regulation between Ecology and the EPA through the lead agency concept.

For the purpose of helping to ensure work is not inconsistent with future CERCLA remedial decisions, if any, Ecology is seeking the involvement of EPA pursuant to Agreement Action Plan Section 5.6 as the non-lead agency in Ecology's review of the performance assessment and SST system closure plan. Involvement with Ecology in conducting these reviews will provide EPA and DOE with a basis to evaluate whether closure is proceeding in a manner not inconsistent with what EPA expects would be required if the work was being conducted under CERCLA remedial authority.

EPA's involvement in these reviews will not constitute a decision under CERCLA. Based on EPA's involvement supporting Ecology review of the initial WMA performance assessment and WMA closure action plans, EPA will provide written comments to Ecology, made available to DOE, for the purpose described above, as well as to identify the need for additional work that EPA expects would be required if the work was being conducted under CERCLA remedial authority. EPA will evaluate the need to provide additional comments based on its review of proposed modifications to WMA closure action plans, and issue additional comments to Ecology as necessary.

### **3.2 INTEGRATION WITH CENTRAL PLATEAU REMEDIAL ACTIONS**

The Parties will strive to integrate SST system closure actions with Central Plateau remedial actions. Integration will provide for protective, cost-effective site closure. Closure of SST system components such as ancillary equipment and soil contamination outside of WMAs will require close integration with decision making at adjacent sites. A consistent groundwater monitoring, protection, and risk assessment methodology will also be realized through close integration of activities, as described in the Hanford Site Groundwater Strategy (DOE/RL-2002-59). Consistent application of the requirements of this Appendix I will serve to aid the Parties in ensuring cost-effective and consistent cleanup on the Central Plateau. Central Plateau cleanup integration will also allow efficiencies through the coordination of operational interfaces on the Hanford Site.

Modifications to existing Tri-Party Agreement milestones are denoted with ~~strikethrough~~; new milestones/text are denoted with **new text**.

NOTE: This Change Request does not reflect changes in Change Request M-45-07-01

<p>M-045-00 LEAD AGENCY: ECOLOGY</p>	<p>COMPLETE CLOSURE OF ALL SINGLE SHELL TANK FARMS.</p> <p>CLOSURE WILL FOLLOW RETRIEVAL OF AS MUCH TANK WASTE AS TECHNICALLY POSSIBLE, WITH TANK WASTE RESIDUES NOT TO EXCEED 360 CUBIC FEET (CU. FT.) IN EACH OF THE 100 SERIES TANKS, 30 CU. FT. IN EACH OF THE 200 SERIES TANKS, OR THE LIMIT OF WASTE RETRIEVAL TECHNOLOGY CAPABILITY, WHICHEVER IS LESS. IF THE DOE BELIEVES THAT WASTE RETRIEVAL TO THESE LEVELS IS NOT POSSIBLE FOR A TANK, THEN DOE WILL SUBMIT A DETAILED EXPLANATION TO EPA AND ECOLOGY EXPLAINING WHY THESE LEVELS CANNOT BE ACHIEVED, AND SPECIFYING THE QUANTITIES OF WASTE THAT THE DOE PROPOSES TO LEAVE IN THE TANK. THE REQUEST WILL BE APPROVED OR DISAPPROVED BY EPA AND ECOLOGY ON A TANK-BY-TANK BASIS. PROCEDURES FOR MODIFYING THE RETRIEVAL CRITERIA LISTED ABOVE, AND FOR PROCESSING REQUESTS FOR EXCEPTIONS TO THE CRITERIA ARE OUTLINED IN APPENDIX H TO THE AGREEMENT.</p> <p>FOR THE PURPOSES OF THIS AGREEMENT ALL UNITS LOCATED WITHIN THE BOUNDARY OF EACH TANK FARM WILL BE CLOSED IN ACCORDANCE WITH WAC 173-303-610. THIS INCLUDES CONTAMINATED SOIL AND ANCILLARY EQUIPMENT THAT WERE PREVIOUSLY DESIGNATED AS RCRA PAST PRACTICE UNITS. ADOPTING THIS APPROACH WILL ENSURE EFFICIENT USE OF FUNDING AND WILL REDUCE POTENTIAL DUPLICATION OF EFFORT VIA APPLICATION OF DIFFERENT REGULATORY REQUIREMENTS: WAC 173-303-610 FOR CLOSURE OF THE TSD UNITS AND RCRA SECTION 3004(U) FOR REMEDIATION OF RCRA PAST PRACTICE UNITS.</p> <p>ALL PARTIES RECOGNIZE THAT THE RECLASSIFICATION OF PREVIOUSLY IDENTIFIED RCRA PAST PRACTICE UNITS TO ANCILLARY EQUIPMENT ASSOCIATED WITH THE TSD UNIT IS STRICTLY FOR APPLICATION OF A CONSISTENT CLOSURE APPROACH. UPGRADES TO PREVIOUSLY CLASSIFIED RCRA PAST PRACTICE UNITS TO ACHIEVE COMPLIANCE WITH RCRA OR DANGEROUS WASTE INTERIM STATUS TECHNICAL STANDARDS FOR TANK SYSTEMS (I.E., SECONDARY CONTAINMENT, INTEGRITY ASSESSMENTS, ETC.) WILL NOT BE MANDATED AS A RESULT OF THIS ACTION. HOWEVER, ANY EQUIPMENT MODIFIED OR REPLACED WILL MEET INTERIM STATUS STANDARDS. IN EVALUATING CLOSURE OPTIONS FOR SINGLE-SHELL TANKS, CONTAMINATED SOIL, AND ANCILLARY EQUIPMENT, ECOLOGY AND EPA WILL CONSIDER COST, TECHNICAL PRACTICABILITY, AND POTENTIAL EXPOSURE TO RADIATION. CLOSURE OF ALL UNITS WITHIN THE BOUNDARY OF A GIVEN TANK FARM WILL BE ADDRESSED IN A CLOSURE PLAN FOR THE SINGLE-SHELL TANKS.</p> <p>COMPLIANCE WITH THE WORK SCHEDULES SET FORTH IN THIS M-45 SERIES IS DEFINED AS THE PERFORMANCE OF SUFFICIENT WORK TO ASSURE WITH REASONABLE CERTAINTY THAT DOE WILL ACCOMPLISH SERIES M-45 MAJOR AND INTERIM MILESTONE REQUIREMENTS.</p> <p>DOE INTERNAL WORK SCHEDULES (E.G., DOE APPROVED SCHEDULE BASELINES) AND ASSOCIATED WORK DIRECTIVES AND AUTHORIZATIONS SHALL BE CONSISTENT WITH THE REQUIREMENTS OF THIS AGREEMENT. MODIFICATION OF DOE CONTRACTOR BASELINE(S) AND ISSUANCE OF ASSOCIATED DOE WORK DIRECTIVES AND/OR AUTHORIZATIONS THAT ARE NOT CONSISTENT WITH AGREEMENT REQUIREMENTS SHALL NOT BE FINALIZED PRIOR TO APPROVAL OF AN AGREEMENT CHANGE REQUEST SUBMITTED PURSUANT TO AGREEMENT ACTION PLAN SECTION 12.0. COMPLETION OF THIS MAJOR MILESTONE REQUIRES THE COMPLETION OF THE WORK SCOPE IN ALL PRECEDING MILESTONES AND TARGET DATES,</p>	<p>09/30/2024</p>
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	<p>UNLESS OTHERWISE AGREED TO BY THE PARTIES.</p> <p>ALL WORK UNDER THIS MILESTONE M-45 SERIES SHALL BE CONDUCTED IN COMPLIANCE WITH AGREEMENT REQUIREMENTS INCLUDING BUT NOT LIMITED TO THE PARTIES' AGREEMENT APPENDIX I, "SINGLE-SHELL TANK SYSTEM WASTE RETRIEVAL AND CLOSURE PROCESS".</p>	
<p>M-045-00B</p>	<p>COMPLETE SPECIFIED "NEAR TERM" SST WASTE RETRIEVAL AND INTERIM CLOSURE ACTIVITIES, TO RESULT IN THE RETRIEVAL OF ALL TANK WASTES IN WMA-C SSTs PURSUANT TO THE AGREEMENT CRITERIA IN MILESTONE M-45-00.</p> <p>UNTIL THE WASTE TREATMENT COMPLEX IS OPERATIONAL, THE AMOUNT OF DST SPACE AVAILABLE TO RECEIVE SST WASTE IS LIMITED.. THE NEAR TERM FOCUS FOR SST WASTE RETRIEVAL WILL INCLUDE MAXIMIZING THE TRANSFER OF CONTAMINANTS OF CONCERN (LONG-LIVED, MOBILE RADIONUCLIDES) INTO THE DST SYSTEM AND OPTIMIZING WASTE FEED SO AS TO MAINTAIN EFFICIENT WTP OPERATIONS. ADDITIONAL CRITERIA THAT WILL BE CONSIDERED IN TANK SELECTION AND MAY RESULT IN LOWER RISK TANKS BEING RETRIEVED EARLIER IN THE SEQUENCE, INCLUDE;</p> <ul style="list-style-type: none"> <li>• WORKER SAFETY</li> <li>• FACILITATION OF WMA CLOSURES.</li> <li>• THE OPTIMIZATION OF DST SPACE UTILIZATION CONSIDERING RESOURCE LEVELING AND WASTE TRANSFER INFRASTRUCTURE</li> <li>• RETRIEVAL AND CLOSURE REQUIREMENTS FOR ASSOCIATED ANCILLARY EQUIPMENT.</li> </ul> <p>WORK UNDER THIS MILESTONE INCLUDES:</p> <p>COMPLETION OF FOUR "LIMITS OF TECHNOLOGY" RETRIEVAL DEMONSTRATIONS, AND RETRIEVAL OF SUFFICIENT SST WASTE CONTAINING NO LESS THAN 800 CURIES OF CONTAMINANTS OF CONCERN AND OCCUPYING A MINIMUM OF 3 MILLION GALLONS OF DST SPACE. "LIMITS OF TECHNOLOGY" RETRIEVAL DEMONSTRATIONS WILL SEEK TO IMPROVE UPON PAST PRACTICE SLUICING (PPS) BASELINE TECHNOLOGY INCLUDING BUT NOT LIMITED TO RETRIEVAL EFFICIENCY, LEAK LOSS DURING RETRIEVAL, AND LEAK DETECTION MITIGATION AND MONITORING (LDMM).</p> <p>RETRIEVAL DEMONSTRATIONS SHALL BE CONDUCTED FOR 1) SALTCAKE DISSOLUTION (AT TANK S-112), 2) MODIFIED SLUICING (AT TANK C-106, 3) VACUUM RETRIEVAL (AT DOE'S C-200 SERIES TANKS), AND 4) MRS (ROBOTIC TECHNOLOGIES) + VACUUM RETRIEVAL AT TANK C-110, C-111, OR C-101 (WHICHEVER IS RETRIEVED FIRST).</p> <p>WASTE SHALL BE RETRIEVED TO THE DST SYSTEM TO THE LIMITS OF THE TECHNOLOGY (OR TECHNOLOGIES) SELECTED. SELECTED SLUDGE/HARD HEEL TECHNOLOGY (OR TECHNOLOGIES) MUST SEEK TO IMPROVE UPON THE PAST-PRACTICE SLUICING BASELINE IN THE AREAS OF EXPECTED RETRIEVAL EFFICIENCY, LEAK LOSS POTENTIAL, AND SUITABILITY FOR USE IN POTENTIALLY LEAKING TANKS.</p> <p>INSTALLATION AND IMPLEMENTATION OF FULL SCALE EXTERNAL-TANK LEAK DETECTION, MONITORING, AND MITIGATION (LDMM) TECHNOLOGIES FOR THE FIRST THREE 100-SERIES TANK RETRIEVALS FOLLOWING TANK S-112. THE BASELINE LDMM SYSTEM (I.E. DRYWELL LOGGING) IS TO BE SUPPLEMENTED, USING AN EXTERNAL-TANK ELECTRICAL RESISTIVITY (ER) METHOD. THE ELECTRICAL RESISTIVITY SYSTEM WILL BE DESIGNED FOR IMPLEMENTATION AT THE THREE TANKS AND FULLY DEPLOYED AT THE FIRST TANK TO BE RETRIEVED. CRITERIA FOR THE DEMONSTRATION AT THE FIRST TANK SHALL BE AGREED TO BY DOE AND ECOLOGY BEFORE THE TECHNOLOGY IS INSTALLED.</p>	<p>09/30/2006 OR AS OTHERWISE INDICATED WITHIN THE DESCRIPTIVE TEXT OF THIS MILESTONE</p>

	<ul style="list-style-type: none"> <li>• DOE WILL SUBMIT FOR ECOLOGY APPROVAL A TEST PLAN INCLUDING AN INJECTION TEST, DESCRIBING THE CRITERIA AND METHOD TO TEST THE SELECTED ER. 90 DAYS AFTER THE COMPLETION OF THE TESTING, DOE WILL SUBMIT AN EVALUATION REPORT AND ANY RECOMMENDATION FOR FURTHER DEPLOYMENT.</li> <li>• IF THE PARTIES AGREE THAT THE METHOD IS SUITABLE, ER WILL BE DEPLOYED IN THE SUBSEQUENT APPROPRIATE RETRIEVAL TANKS.</li> <li>• IF THE PARTIES DO NOT AGREE THAT ER IS SUITABLE FOR SUBSEQUENT RETRIEVALS, OR IF THE DATA IS INCONCLUSIVE, ECOLOGY WILL REQUIRE APPLICATION AND/OR DEVELOPMENT OF APPROPRIATE LDMM TECHNOLOGY IN LIEU OF OR IN ADDITION TO ER.</li> <li>• SUBMITTAL AS AGREEMENT PRIMARY DOCUMENTS, TANK WASTE RETRIEVAL WORK PLANS FOR TANKS C-101, C-102, C-103, C-104, C-105, C-107, C-108, C-109, C-110, C-111, C-112, C-201, C-202, C-203, AND C-204             <ul style="list-style-type: none"> <li>○ TANKS C-201, C-202, C-203 AND C-204, (PROVIDE SUPPLEMENTAL INFORMATION BY MARCH 31, 2004 TO INCLUDE START OF RETRIEVAL DATE AS PER APPENDIX I REQUIREMENTS).</li> <li>○ DOE SHALL SUBMIT TWRWP(S) FOR 2 100-SERIES TANKS BY JULY 31, 2004.</li> <li>○ DOE SHALL SUBMIT TWRWP(S) FOR 4 100-SERIES TANKS BY OCTOBER 31, 2004.</li> <li>○ DOE SHALL SUBMIT TWRWP(S) FOR 5 100-SERIES TANKS BY JANUARY 31, 2005.</li> </ul> </li> <li>• SUBMITTAL TO ECOLOGY OF CERTIFIED COMPONENT CLOSURE ACTIVITY PLANS FOR THE PRECEDING SSTs IN ACCORDANCE WITH AGREEMENT APPENDIX I.</li> <li>• SUBMITTAL OF WMA INTEGRATION PLANS FOR WMA-C AND ONE ADDITIONAL WMA BY JUNE 30, 2005.</li> </ul> <p>THE SELECTION OF ADDITIONAL SSTs FOR WASTE RETRIEVAL SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF AGREEMENT APPENDIX I, SECTION 2.1.2.</p> <p>IN ADDITION TO THE PRECEDING, DOE WILL PROCESS A BASELINE CHANGE CONTROL, AND ASSOCIATED WORK DIRECTIVES AS MAY BE NECESSARY, CONSISTENT WITH THIS AGREEMENT AND THE PARTIES' MILESTONE M-45-04-01 CHANGE REQUEST NO LATER THAN SEPTEMBER 30, 2004.</p> <p>PROCEDURES FOR MODIFYING THE RETRIEVAL CRITERIA LISTED WITHIN THE ASSOCIATED MILESTONES, AND FOR PROCESSING REQUESTS FOR EXCEPTIONS TO THE CRITERIA ARE OUTLINED IN APPENDIX "H" TO THIS AGREEMENT.</p>	
<p>M-045-00C</p>	<p>INITIATE NEGOTIATION OF SST WASTE RETRIEVAL AND CLOSURE ACTIVITIES AND ASSOCIATED SCHEDULES (FOR THE PERIOD FEBRUARY 2007 THROUGH AUGUST 2008).</p> <p>THESE NEGOTIATIONS SHALL TAKE INTO ACCOUNT VARIABLES SUCH AS WORK IN PROGRESS, E.G., DOE'S TANK WASTE TREATMENT COMPLEX ACQUISITION INITIATIVE, INFORMATION PERTINANT TO, AND THE OUTCOME OF THE PARTIES' WTP PROCESSING CAPACITY AND SUPPLEMENTAL TREATMENT TECHNOLOGY VIABILITY NEGOTIATIONS (PURSUANT TO AGREEMENT MILESTONE M-62-08), AND ENVIRONMENTAL AND HUMAN HEALTH RISKS ASSOCIATED WITH RELEASES FROM DOE'S</p>	<p>09/30/2006</p>

	<p>SSTs. NEGOTIATIONS SHALL BE DESIGNED TO ESTABLISH A SUFFICIENT NUMBER OF AGREEMENT MILESTONES AND TARGET DATES TO EFFECTIVELY DRIVE EACH PHASE OF WORK INCLUDING BUT NOT LIMITED TO: 1.) WASTE RETRIEVAL TECHNOLOGY DEVELOPMENT, 2.) RETRIEVAL PERFORMANCE EVALUATIONS, 3.) LEAK DETECTION, MONITORING, AND MITIGATION, 4.) SELECTION OF SST RETRIEVALS, 5.) DESIGN, CONSTRUCTION AND OPERATION OF SST WASTE RETRIEVAL SYSTEMS, 6.) CLOSURE PLANNING AND CLOSURE PLAN DEVELOPMENT, 7.) SCHEDULES FOR WMA ANCILLARY EQUIPMENT WASTE RETRIEVAL AND CLOSURE, 8.) OTHER ACTIVITIES AS MAY BE NECESSARY TO SUPPORT WMA CLOSURES, AND 9.) ACQUISITION OF ADDITIONAL COMPLIANT STORAGE SPACE, E.G., NEW DSTs, IF NEEDED.</p> <p>DOE, AND DOE'S CONTRACTOR(S) WILL RETRIEVE AND TRANSFER SST WASTES INTO THE DST SYSTEM AS SOON AS SPACE IS MADE AVAILABLE, ALLOWING DST SPACE FOR TREATMENT PLANT FEED STAGING AND SAFETY ISSUE RESOLUTION. TRANSFER OF SST WASTE WILL BE MADE ONCE SUFFICIENT DST SYSTEM SPACE IS AVAILABLE TO ALLOW A TRANSFER OF AN OPERATIONALLY PRACTICABLE VOLUME OF WASTE. SST WASTE WILL BE RETRIEVED ON A PRIORITY BASIS WITH THE GOALS OF REDUCING ENVIRONMENTAL RISK AND TREATMENT PROCESS OPTIMIZATION. DOE AND ECOLOGY WILL AGREE ON THE CRITERIA TO DETERMINE ENVIRONMENTAL RISK REDUCTION.</p> <p>THE ECOLOGY AND DOE NEGOTIATIONS UNDER THIS MILESTONE SHALL BE COMPLETED WITHIN 120 DAYS. IN THE EVENT THE PARTIES DO NOT REACH AGREEMENT WITHIN THIS TIMEFRAME; THE NEGOTIATIONS WILL BE RESOLVED AS A RESOLUTION OF DISPUTE VIA FINAL DETERMINATION OF THE DIRECTOR OF ECOLOGY PURSUANT TO HFFACO ARTICLE VIII. UNLESS OTHERWISE AGREED BY THE ECOLOGY AND DOE, THIS FINAL DETERMINATION WILL BE ISSUED WITHIN 150 DAYS OF INITIATION OF NEGOTIATIONS.</p>	
<p>M-045-00D</p>	<p>INITIATE NEGOTIATION OF THE SST WASTE RETRIEVAL AND CLOSURE ACTIVITIES FOR THE PERIOD SEPTEMBER 2008 TO SEPTEMBER 2013.</p> <p>THESE NEGOTIATIONS SHALL TAKE INTO ACCOUNT VARIABLES SUCH AS WORK IN PROGRESS, E.G., PHASE I RFI REPORTS OF ALL SST WMAs (PURSUANT TO AGREEMENT MILESTONE M-45-55), CORRECTIVE MEASURES STUDIES FOR ALL SST WMAs (PURSUANT TO AGREEMENT MILESTONE M-45-56, DOE'S TANK WASTE TREATMENT COMPLEX ACQUISITION INITIATIVE, INFORMATION PERTINANT TO, AND THE OUTCOME OF THE PARTIES' WTP PROCESSING CAPACITY AND SUPPLEMENTAL TREATMENT TECHNOLOGY VIABILITY NEGOTIATIONS (PURSUANT TO AGREEMENT MILESTONE M-62-08), AND ENVIRONMENTAL AND HUMAN HEALTH RISKS ASSOCIATED WITH RELEASES FROM DOE'S SSTs. NEGOTIATIONS SHALL BE DESIGNED TO ESTABLISH A SUFFICIENT NUMBER OF AGREEMENT MILESTONES AND TARGET DATES TO EFFECTIVELY DRIVE EACH PHASE OF WORK INCLUDING BUT NOT LIMITED TO: 1.) WASTE RETRIEVAL TECHNOLOGY DEVELOPMENT, 2.) RETRIEVAL PERFORMANCE EVALUATIONS, 3.) LEAK DETECTION, MONITORING, AND MITIGATION, 4.) SELECTION OF SST RETRIEVAL SEQUENCE, 5.) DESIGN, CONSTRUCTION AND OPERATION OF SST WASTE RETRIEVAL SYSTEMS, 6.) CLOSURE PLANNING AND CLOSURE PLAN DEVELOPMENT, 7.) SCHEDULES FOR WMA ANCILLARY EQUIPMENT WASTE RETRIEVAL AND CLOSURE, 8.) OTHER ACTIVITIES AS MAY BE NECESSARY TO SUPPORT WMA CLOSURES, AND 9.) ACQUISITION OF ADDITIONAL COMPLIANT STORAGE SPACE, E.G., NEW DSTs, IF NEEDED.</p> <p>DOE, AND DOE'S CONTRACTOR(S) WILL RETRIEVE AND TRANSFER SST WASTE INTO THE DST SYSTEM AS SOON AS SPACE IS MADE AVAILABLE, ALLOWING DST SPACE FOR TREATMENT PLANT FEED STAGING AND SAFETY ISSUE RESOLUTION. TRANSFER OF SST WASTE WILL BE MADE ONCE SUFFICIENT DST SYSTEM SPACE IS AVAILABLE TO ALLOW A TRANSFER OF AN OPERATIONALLY PRACTICABLE VOLUME OF WASTE. SST WASTE WILL BE RETRIEVED ON USING THE GOALS OF REDUCING</p>	<p>01/31/2008</p>

	<p>ENVIRONMENTAL RISK AND TREATMENT PROCESS OPTIMIZATION.</p> <p>THE ECOLOGY AND DOE NEGOTIATIONS UNDER THIS MILESTONE SHALL BE COMPLETED WITHIN 150 DAYS. IN THE EVENT THE PARTIES DO NOT REACH AGREEMENT WITHIN THIS TIMEFRAME, THE NEGOTIATIONS WILL BE RESOLVED AS A RESOLUTION OF DISPUTE VIA FINAL DETERMINATION OF THE DIRECTOR OF ECOLOGY PURSUANT TO HFFACO ARTICLE VIII. UNLESS OTHERWISE AGREED BY THE ECOLOGY AND DOE, THIS FINAL DETERMINATION WILL BE ISSUED WITHIN 180 DAYS OF INITIATION OF NEGOTIATIONS.</p>	
<p>M-045-00E</p>	<p>INITIATE NEGOTIATION OF SST WASTE RETRIEVAL AND CLOSURE ACTIVITIES FOR THE REMAINDER OF THE SST PROGRAM.</p> <p>THESE NEGOTIATIONS WILL ESTABLISH REGULATORY REQUIREMENTS FOR THE REMAINDER OF THE SST WASTE RETRIEVAL AND CLOSURE PROGRAM (THROUGH COMPLETION OF CLOSURE AT ALL SST WMAs). NEGOTIATIONS WILL INCLUDE MODIFICATION AS MAY BE NECESSARY OF COMPLETION DATES FOR SST WASTE RETRIEVAL AND SST WMA CLOSURE BASED ON EXPERIENCE GAINED FROM PHASE I RFI REPORTS OF ALL SST WMAs (PURSUANT TO AGREEMENT MILESTONE M-45-55), CORRECTIVE MEASURES STUDIES FOR ALL SST WMAs (PURSUANT TO AGREEMENT MILESTONE M-45-56), DOE'S TANK WASTE TREATMENT COMPLEX ACQUISITION INITIATIVE, INFORMATION PERTINANT TO, AND THE OUTCOME OF THE PARTIES' WTP PROCESSING CAPACITY AND SUPPLEMENTAL TREATMENT TECHNOLOGY VIABILITY NEGOTIATIONS (PURSUANT TO AGREEMENT MILESTONE M-62-08), AND ENVIRONMENTAL AND HUMAN HEALTH RISKS ASSOCIATED WITH RELEASES FROM DOE'S SSTs.</p> <p>DOE, AND DOE'S CONTRACTOR(S) WILL RETRIEVE AND TRANSFER SST WASTES INTO THE DST SYSTEM AS SOON AS SPACE IS MADE AVAILABLE, ALLOWING DST SPACE FOR TREATMENT PLANT FEED STAGING AND SAFETY ISSUE RESOLUTION. TRANSFER OF SST WASTE WILL BE MADE ONCE SUFFICIENT DST SYSTEM SPACE IS AVAILABLE TO ALLOW A TRANSFER OF AN OPERATIONALLY PRACTICABLE VOLUME OF WASTE. SST WASTE WILL BE RETRIEVED ON A PRIORITY BASIS WITH THE CRITERIA OF REDUCING ENVIRONMENTAL RISK AND TREATMENT PROCESS OPTIMIZATION.</p> <p>THE ECOLOGY AND DOE NEGOTIATIONS UNDER THIS MILESTONE SHALL BE COMPLETED WITHIN 120 DAYS. IN THE EVENT THE PARTIES DO NOT REACH AGREEMENT WITHIN THIS TIMEFRAME, THE NEGOTIATIONS WILL BE RESOLVED AS A RESOLUTION OF DISPUTE VIA FINAL DETERMINATION OF THE DIRECTOR OF ECOLOGY PURSUANT TO HFFACO ARTICLE VIII. UNLESS OTHERWISE AGREED BY THE ECOLOGY AND DOE, THIS FINAL DETERMINATION WILL BE ISSUED WITHIN 150 DAYS OF INITIATION OF NEGOTIATIONS.</p>	<p>10/31/2012</p>
<p>M-045-02M</p>	<p>SUBMIT BIENNIAL UPDATE TO SST RETRIEVAL SEQUENCE DOCUMENT (AGREEMENT APPENDIX I. SECTION 2.1.2), DOUBLE SHELL TANK SPACE EVALUATION DOCUMENT AND ECOLOGY CONCURRENCE OF ADDITIONAL TANK ACQUISITION.</p> <p>THIS PROVIDES FOR A BIENNIAL UPDATE OF A SST RETRIEVAL SEQUENCE DOCUMENT THAT WILL DEFINE THE TANK RETRIEVAL SEQUENCE, SELECTION CRITERIA AND, RATIONALE, REFERENCE RETRIEVAL METHOD(S) FOR EACH TANK, AND THE ESTIMATED RETRIEVAL SCHEDULES. THE RETRIEVAL SEQUENCE DOCUMENT WILL LIST RETRIEVAL METHODOLOGIES TO BE EMPLOYED AND ESTIMATED WASTE VOLUMES TO BE GENERATED DURING RETRIEVAL (TO BE TRANSFERRED TO THE DST'S OR OTHER AVAILABLE SAFE STORAGE). THE REPORT WILL ALSO LIST TANK SELECTION RATIONALE BASED ON THE PRIMARY OBJECTIVE OF MAXIMIZING RISK REDUCTION THROUGH THE RETRIEVAL OF MOBILE, LONG-LIVED RADIONUCLIDES OR POTENTIAL AIRBORNE CONTAMINANTS AND PRINCIPLE NON RADIOLOGICAL HAZARDOUS CONSTITUENTS IN A MANNER WHICH IS</p>	<p>03/01/2006 OR AS OTHERWISE INDICATED WITHIN THE DESCRIPTIVE TEXT OF THIS MILESTONE</p>

	<p>SENSITIVE TO WASTE TREATMENT FACILITY REQUIREMENTS AND INFRASTRUCTURE CONSTRAINTS. THE SEQUENCING WILL ALSO TAKE IN CONSIDERATION DST SPACE AND DST WASTE COMPATABILITY WHEN SELECTING THE SST RETRIEVAL SEQUENCE. TANK SELECTION FOR RETRIEVAL WILL TAKE INTO CONSIDERATION THE CLOSURE OF WASTE MANAGEMENT AREAS AND RESOURCE OPTIMIZATION. THE BIENNIAL UPDATES WILL BE SUBMITTED TO ECOLOGY FOR APPROVAL AS AGREEMENT PRIMARY DOCUMENTS.</p> <p>THIS ALSO PROVIDES FOR A BIENNIEL UPDATE OF THE DOUBLE SHELL TANK SPACE EVALUATION DOCUMENT. THIS NEW MILESTONE REPLACED MILESTONE M-31-02 AND SUBSEQUENTLY M-46-00K, M-46-00L, AND M-46-00M, ETC. A TANK VOLUME PROJECTION REPORT SHALL BE SUBMITTED ON A BIENNIAL BASIS TO ECOLOGY AND EPA. THIS REPORT SHALL INCLUDE DISCUSSIONS COVERING ALL ASSUMPTIONS WHICH FORM THE BASIS OF THE PROJECTION. THE REPORT SHALL INCLUDE OR SHALL BE ACCOMPANIED BY DOE'S PLANS FOR ACQUISITION OF ADDITIONAL TANKS BASED ON THE TANK VOLUME PROJECTION. ECOLOGY CONCURRENCE OF ADDITIONAL TANK ACQUISITION WITHIN 60 DAYS. WITHIN 60 DAYS OF RECEIVING THE DST TANK SPACE EVALUATION DOCUMENT, THE THREE PARTIES SHALL MEET TO ESTABLISH NEW MILESTONES, IF REQUIRED, FOR ACQUISITION OF ADDITIONAL TANKS.</p>	
M-045-02N	SUBMIT BIENNIAL UPDATE OF SST RETRIEVAL SEQUENCE DOCUMENT (AGREEMENT APPENDIX I. SECTION 2.1.2), AND DOUBLE SHELL TANK SPACE EVALUATION DOCUMENT AND ECOLOGY CONCURRENCE OF ADDITIONAL TANK ACQUISITION WITHIN 60 DAYS. SEE TEXT OF M-45-02M FOR FURTHER DETAILS).	03/01/2008
M-045-02O	SUBMIT BIENNIAL UPDATE OF SST RETRIEVAL SEQUENCE DOCUMENT (AGREEMENT APPENDIX I. SECTION 2.1.2), AND DOUBLE SHELL TANK SPACE EVALUATION DOCUMENT AND ECOLOGY CONCURRENCE OF ADDITIONAL TANK ACQUISITION WITHIN 60 DAYS. SEE TEXT OF M-45-02M FOR FURTHER DETAILS).	03/01/2010
M-045-02P	SUBMIT BIENNIAL UPDATE OF SST RETRIEVAL SEQUENCE DOCUMENT (AGREEMENT APPENDIX I. SECTION 2.1.2), AND DOUBLE SHELL TANK SPACE EVALUATION DOCUMENT AND ECOLOGY CONCURRENCE OF ADDITIONAL TANK ACQUISITION WITHIN 60 DAYS. (SEE TEXT OF M-45-02M FOR FURTHER DETAILS).	03/01/2012
M-045-02Q	SUBMIT BIENNIAL UPDATE OF SST RETRIEVAL SEQUENCE DOCUMENT (AGREEMENT APPENDIX I. SECTION 2.1.2), AND DOUBLE SHELL TANK SPACE EVALUATION DOCUMENT AND ECOLOGY CONCURRENCE OF ADDITIONAL TANK ACQUISITION WITHIN 60 DAYS. (SEE TEXT OF M-45-02M FOR FURTHER DETAILS).	03/01/2014
M-045-02R	SUBMIT BIENNIAL UPDATE OF SST RETRIEVAL SEQUENCE DOCUMENT (AGREEMENT APPENDIX I. SECTION 2.1.2), AND DOUBLE SHELL TANK SPACE EVALUATION DOCUMENT AND ECOLOGY CONCURRENCE OF ADDITIONAL TANK ACQUISITION WITHIN 60 DAYS. SEE TEXT OF M-45-02M FOR FURTHER DETAILS).	03/01/2016
M-045-02S	SUBMIT BIENNIAL UPDATE OF SST RETRIEVAL SEQUENCE DOCUMENT (AGREEMENT APPENDIX I. SECTION 2.1.2), AND DOUBLE SHELL TANK SPACE EVALUATION DOCUMENT AND ECOLOGY CONCURRENCE OF ADDITIONAL TANK ACQUISITION WITHIN 60 DAYS. SEE TEXT OF M-45-02M FOR FURTHER DETAILS).	03/01/2018 AND BIENNIALLY THEREAFTER
M-045-05	RETRIEVE WASTE FROM ALL REMAINING SINGLE-SHELL TANKS. COMPLETE WASTE RETRIEVAL FROM ALL REMAINING SINGLE-SHELL TANKS. RETRIEVAL STANDARDS AND COMPLETION DEFINITIONS ARE PROVIDED UNDER THE MAJOR MILESTONE. THE SCHEDULE REFLECTS RETRIEVAL ACTIVITIES ON A FARM-BY-FARM BASIS. IT ALSO ALLOWS FLEXIBILITY TO RETRIEVE TANKS FROM VARIOUS FARMS IF DESIRED	09/30/2018

	TO SUPPORT SAFETY ISSUE RESOLUTION, PRETREATMENT OR DISPOSAL FEED REQUIREMENTS, OR OTHER PRIORITIES.	
M-045-05-T05	INITIATE TANK RETRIEVAL FROM FIVE ADDITIONAL SINGLE-SHELL TANKS.	09/30/2007
M-045-05-T06	INITIATE TANK RETRIEVAL FROM FIVE ADDITIONAL SINGLE-SHELL TANKS.	09/30/2008
M-045-05-T07	INITIATE TANK RETRIEVAL FROM SEVEN ADDITIONAL SINGLE-SHELL TANKS.	09/30/2009
M-045-05-T08	INITIATE TANK RETRIEVAL FROM EIGHT ADDITIONAL SINGLE-SHELL TANKS.	09/30/2010
M-045-05-T09	INITIATE TANK RETRIEVAL FROM TEN ADDITIONAL SINGLE-SHELL TANKS.	09/30/2011
M-045-05-T10	INITIATE TANK RETRIEVAL FROM 12 ADDITIONAL SINGLE-SHELL TANKS.	09/30/2012
M-045-05-T11	INITIATE TANK RETRIEVAL FROM 14 ADDITIONAL SINGLE-SHELL TANKS.	09/30/2013
M-045-05-T12	INITIATE TANK RETRIEVAL FROM 17 ADDITIONAL SINGLE-SHELL TANKS.	09/30/2014
M-045-05-T13	INITIATE TANK RETRIEVAL FROM 20 ADDITIONAL SINGLE-SHELL TANKS.	09/30/2015
M-045-05-T14	INITIATE TANK RETRIEVAL FROM 20 ADDITIONAL SINGLE-SHELL TANKS.	09/30/2016
M-045-05-T15	INITIATE TANK RETRIEVAL FROM 20 ADDITIONAL SINGLE-SHELL TANKS.	09/30/2017
M-045-05A	<p>COMPLETE WASTE RETRIEVAL FROM TANK S-102.</p> <p>THE S-102 WASTE RETRIEVAL TECHNOLOGY (OR TECHNOLOGIES) WILL BE SELECTED BASED ON THE PRINCIPLE CRITERIA OF MAXIMIZING THE RETRIEVAL OF MOBILE, LONG-LIVED RADIOISOTOPES AND NON-RADIOLOGICAL HAZARDOUS CONSTITUENTS. THE PARTIES RECOGNIZE AND AGREE THAT THIS ACTION IS FOR WASTE RETRIEVAL PURPOSES. RETRIEVAL SHALL BE PERFORMED IN ACCORDANCE WITH GOALS AND CRITERIA SPECIFIED IN M-45-00.</p> <p>COMPLETION OF S-102 WASTE RETRIEVAL IS SUBJECT TO SAFE STORAGE SPACE AVAILABILITY CONSISTENT WITH M-45-00B.</p>	03/31/2007
M-045-06	COMPLETE CLOSURE OF ALL SINGLE-SHELL TANK FARMS IN ACCORDANCE WITH APPROVED CLOSURE/POST CLOSURE PLAN(S).	09/30/2024
M-045-06-T03	INITIATE CLOSURE ACTIONS ON A WMA BASIS. CLOSURE SHALL FOLLOW COMPLETION OF THE RETRIEVAL ACTIONS UNDER PROPOSED MILESTONE M-45-05. CLOSURE WILL BE DEFINED IN AN APPROVED CLOSURE PLAN FOR THE DEMONSTRATION FARM. FINAL CLOSURE IS DEFINED AS ECOLOGY ACCEPTANCE OF DOE'S CERTIFICATION OF COMPLETION OF CLOSURE.	03/31/2012
M-045-06-T04	COMPLETE CLOSURE ACTIONS ON ONE WMA.	03/31/2014
M-045-13	<p>INTERIM COMPLETION OF TANK S-112 SST WASTE RETRIEVAL AND CLOSURE DEMONSTRATION PROJECT.</p> <p>THE S-112 SST WASTE RETRIEVAL AND CLOSURE DEMONSTRATION PROJECT WILL BE CONSIDERED INTERIM COMPLETE WHEN THE</p>	12/31/2007

	<p>FOLLOWING CRITERIA HAVE BEEN MET:</p> <ol style="list-style-type: none"> <li>1. FULL SCALE WASTE RETRIEVAL HAS BEEN COMPLETED IN ACCORDANCE WITH APPLICABLE REGULATORY REQUIREMENTS INCLUDING WASHINGTON'S HAZARDOUS WASTE MANAGEMENT ACT, REQUIREMENTS SET BY THIS AGREEMENT, AND THE APPROVED S-112 SALTCAKE WASTE RETRIEVAL TECHNOLOGY FUNCTIONS AND REQUIREMENTS DOCUMENT (DOE WILL DOCUMENT PROJECT DATA AND RESULTS IN A WASTE RETRIEVAL AND CLOSURE DEMONSTRATION PROJECT REPORT) .</li> <li>2. REMAINING WASTES HAVE BEEN ADEQUATELY CHARACTERIZED, AND A RISK ASSESSMENT, APPROVED BY ECOLOGY, HAS BEEN COMPLETED FOR RESIDUALS THAT REMAIN IN THE TANK.</li> <li>3. THE S-112 WASTE RETRIEVAL AND CLOSURE DEMONSTRATION PLAN HAS BEEN SUBMITTED BY DOE AND APPROVED BY ECOLOGY, I.E. INCORPORATED INTO THE SITE-WIDE PERMIT.</li> <li>4. IF APPROPRIATE, DOE HAS REQUESTED, AND ECOLOGY HAS APPROVED AN EXCEPTION TO WASTE RETRIEVAL CRITERIA PURSUANT TO AGREEMENT APPENDIX H.</li> </ol>	
<p>M-045-15</p>	<p>INTERIM COMPLETION OF TANK S-102 SST WASTE RETRIEVAL AND CLOSURE DEMONSTRATION PROJECT.</p> <p>THE S-102 SST WASTE RETRIEVAL AND CLOSURE DEMONSTRATION PROJECT WILL BE CONSIDERED INTERIM COMPLETE WHEN THE FOLLOWING CRITERIA HAVE BEEN MET:</p> <ol style="list-style-type: none"> <li>1. FULL SCALE WASTE RETRIEVAL HAS BEEN COMPLETED IN ACCORDANCE WITH APPLICABLE REGULATORY REQUIREMENTS INCLUDING WASHINGTON'S HAZARDOUS WASTE MANAGEMENT ACT, REQUIREMENTS SET BY THIS AGREEMENT, AND THE APPROVED S-102 INITIAL WASTE RETRIEVAL FUNCTIONS AND REQUIREMENTS DOCUMENT (DOE WILL DOCUMENT PROJECT DATA AND RESULTS IN A WASTE RETRIEVAL AND CLOSURE DEMONSTRATION PROJECT REPORT) .</li> <li>2. REMAINING WASTES HAVE BEEN ADEQUATELY CHARACTERIZED, AND A RISK ASSESSMENT, APPROVED BY ECOLOGY, HAS BEEN COMPLETED FOR RESIDUALS THAT REMAIN IN THE TANK.</li> <li>3. THE S-102 WASTE RETRIEVAL AND CLOSURE DEMONSTRATION PLAN HAS BEEN SUBMITTED BY DOE AND APPROVED BY ECOLOGY, I.E. INCORPORATED INTO THE SITE-WIDE PERMIT.</li> <li>4. IF APPROPRIATE, DOE HAS REQUESTED, AND ECOLOGY HAS APPROVED AN EXCEPTION TO WASTE RETRIEVAL CRITERIA PURSUANT TO AGREEMENT APPENDIX H.</li> </ol>	<p>12/31/2007</p>
<p>M-045-55</p>	<p>SUBMIT TO ECOLOGY FOR REVIEW AND APPROVAL AS AN AGREEMENT PRIMARY DOCUMENT A PHASE 1 RFI REPORT INTEGRATING RESULTS OF DATA GATHERING ACTIVITIES AND EVALUATIONS FOR ALL SST WMAS, INCLUDING A SUMMARY OF IMPACTS FROM THE INITIAL SST PERFORMANCE ASSESSMENT, INCLUDING GROUNDWATER MONITORING AND IMPACTS ASSESSMENT USING HANFORD SITE GROUNDWATER MODELS, WITH CONCLUSIONS AND RECOMMENDATIONS. RESULTS FROM WMAS A-AX, AND C, AND U WILL BE INCLUDED AS APPENDICES TO THE RFI ROLLUP REPORT ADDRESSING THE SST WMAS UNDER RCRA CORRECTIVE ACTION, SO THAT A SINGLE DOCUMENT CONTAINS AVAILABLE INFORMATION FOR THE 200 AREA SST WMAS AND WILL SUPPORT SST RETRIEVAL AND CLOSURE.</p>	<p>01/31/2007 01/31/2008</p> <p><i>WATER</i> <i>SJO</i></p>
<p>M-045-55-T04</p>	<p><del>SUBMIT TO ECOLOGY FOR REVIEW AND COMMENT A DRAFT FIELD- INVESTIGATION REPORT COMBINING THE RESULTS OF FIELD- INVESTIGATIONS AND ANALYSIS FOR WMAS A AX, C &amp; U PURSUANT TO THE SITE SPECIFIC SST WMA PHASE 1 RFI/CMS WORK PLAN ADDENDA- FOR WMA A AX, C AND U.</del></p>	<p>04/30/2006</p>
<p>M-045-56</p>	<p>COMPLETE IMPLEMENTATION OF AGREED-TO INTERIM MEASURES.</p> <p>SPECIFIC INTERIM MEASURES WILL BE IMPLEMENTED PURSUANT TO</p>	<p>To Be Determined</p>

	<p>AGREEMENT COMMITMENTS (E.G., SEE INTERIM MILESTONE M-45-57). INTERIM MEASURES MAY ALSO BE REQUIRED BY ECOLOGY, PROPOSED BY DOE IN THE SST WMA RFI REPORT (M-45-55) (OR ENGINEERING STUDIES INCLUDING THAT ADDRESSED IN TARGET MILESTONE M-45-56-T01), OR ESTABLISHED BY AGREEMENT OF THE PARTIES AT ANY TIME DURING THE CORRECTIVE ACTION PROCESS. ALSO SEE TABLE 1 OF AGREEMENT CHANGE CONTROL FORM #M-45-98-03.</p> <p>ECOLOGY AND DOE AGREE, AT A MINIMUM, TO MEET YEARLY (BY JULY OR AS NEEDED TO SUPPORT ANNUAL BUDGETING) FOR THE SPECIFIC PURPOSE OF ASSESSING THE ADEQUACY OF INFORMATION, AND THE NEED FOR THE ESTABLISHMENT OF ADDITIONAL AGREEMENT INTERIM MEASURES. ADDITIONAL AGREEMENT INTERIM MEASURES SHALL BE DOCUMENTED THROUGH ESTABLISHMENT OF INTERIM MILESTONES AND ASSOCIATED TARGET DATES AS AGREED NECESSARY BY THE PARTIES.</p>	
M-045-58	<p>SUBMIT TO ECOLOGY FOR REVIEW AND APPROVAL AS AN AGREEMENT PRIMARY DOCUMENT A <del>CORRECTIVE MEASURES STUDY FOR INTERIM-CORRECTIVE MEASURES FOR ALL SST WMA'S (PENDING RESULTS AND CONCLUSIONS IN THE PHASE 1 RFI REPORT MILESTONE M-45-55 OR SUBSEQUENT RFI REPORT)</del> PHASE 2 MASTER WORKPLAN THAT DESCRIBES THE PROPOSED APPROACH FOR THE COMPLETION OF CORRECTIVE ACTION TO MEET FINAL CLOSURE REQUIREMENTS IN THE WASTE MANAGEMENT AREAS AS DESCRIBED IN APPENDIX I, SECTION 2.3.</p>	<p><del>06/30/2007</del> 12/31/2008</p>
M-045-59	<p>CONTROL SURFACE WATER INFILTRATION PATHWAYS AS NEEDED TO CONTROL OR SIGNIFICANTLY REDUCE THE LIKELIHOOD OF MIGRATION OF SUBSURFACE CONTAMINATION TO GROUNDWATER AT THE SST WMAS (PENDING THE CMS REPORT, MILESTONE M-45-58, AND IMPLEMENTATION OF OTHER INTERIM CORRECTIVE MEASURES.</p> <p>DECISIONS ON CONTROLLING SURFACE WATER INFILTRATION PATHWAYS WILL BE MADE BY EVALUATING THE ROLE OF SURFACE WATER INFILTRATION AND THE TRANSPORT OF SUBSURFACE CONTAMINATION TO GROUNDWATER. BASED ON THE CORRECTIVE MEASURES STUDY (M-45-58) INTERIM SURFACE BARRIERS AND/OR OTHER INFILTRATION CONTROLS MAY BE REQUIRED.</p>	<p>To Be Determined</p>
M-045-60	<p>SUBMIT TO ECOLOGY FOR REVIEW AND APPROVAL AS AN AGREEMENT PRIMARY DOCUMENT, DOE'S PHASE 2 RFI/CMS WORK PLAN AND SAMPLING AND ANALYSIS PLAN (SAP) FOR ALL SST WMAS C. THIS RFI/CMS WORK PLAN SHALL DOCUMENT THE ADDITIONAL INTERIM MEASURES AND FURTHER INVESTIGATIONS NEEDED FOR DECISIONS ON RETRIEVAL, CLOSURE, AND CORRECTIVE MEASURES FOR ALL SST WMAS.</p>	<p>09/30/2007 12/31/2008</p> <p><i>SJO</i> <i>WAL</i></p>
M-45-61	<p>SUBMIT TO ECOLOGY FOR REVIEW AND APPROVAL AS AN AGREEMENT PRIMARY DOCUMENT, A PHASE 2 RCRA FACILITY INVESTIGATION / CORRECTIVE MEASURES STUDY REPORT FOR WMA C.</p>	<p>12/31/2010</p>
M-45-62	<p>SUBMIT TO ECOLOGY FOR REVIEW AND APPROVAL AS AN AGREEMENT PRIMARY DOCUMENT A PHASE 2 CORRECTIVE MEASURES IMPLEMENTATION WORK PLAN FOR WMA C.</p>	<p>7/31/2012</p>