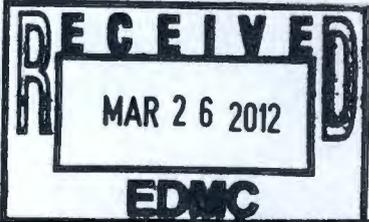
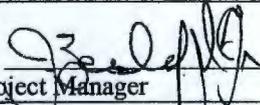
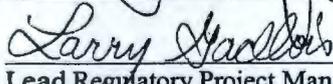




**Change Notice for Modifying Approved Documents/ Workplans  
In Accordance with the Tri-Party Agreement Action Plan,  
Section 9.0, Documentation and Records**

1212708

0093310

<b>Change Number</b> TPA-CN- 472	<b>Document Submitted Under Tri-Party Agreement Milestone</b>	<b>Date:</b> 8/11/2011		
<b>Document Number and Title:</b> DOE/RL-2001-47, Rev. 3 Remedial Design Report/Remedial Action Work Plan for the 300 Area		<b>Date Document Last Issued:</b> December 2009		
<b>Originator:</b> Jamie Zeisloft		<b>Phone:</b> 372-0188		
<p><b>Description of Change:</b> An Explanation of Significant Differences (ESD) to the Record of Decision for the 300 Area Remedial Action was approved on August 3, 2011 and authorizes a modified approach for managing liquids in bottles at 618-10. The Remedial Design Report/Remedial Action Work Plan is being modified to be consistent with the ESD. Specific changes are:</p> <p>Section 1.2.1, page 1-4, added language describing the 2011 ESD Section 3.5.2, pages 3-11 and 3-12, inserted language to describe the process for treating bottles containing less than 1 gallon of liquids at 618-10.</p> <p>_____ <u>J. Zeisloft</u> and _____ <u>L. Gadbois</u> agree that the proposed change modifies an approved <b>DOE</b> <b>Lead Regulatory Agency</b></p> <p>workplan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, <i>Documentation and Records</i>, and not Chapter 12.0, <i>Changes to the Agreement</i>.</p>				
				
<p><b>Justification and Impacts of Change:</b></p> <p>DOE/RL-2001-47, Rev. 3 needs to be updated to reflect a revised approach to the remedy for the 618 10 burial ground as described in the 2011 Explanation of Significant Differences for the 300 Area Remedial Action. These changes will be included in the next revision of the document. Affected pages are 1-4, 3-11, and 3-12.</p> <p><del>Shading indicates changes</del></p>				
<b>Approvals:</b>				
 _____ DOE Project Manager		<u>8/11/11</u> Date	<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Disapproved
 _____ Lead Regulatory Project Manager		<u>8-11-2011</u> Date	<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Disapproved

Once all the above steps have been completed, the originator sends a copy of the signed change notice to the MSA TPAI organization (H7-28), the Administrative Record (H6-08) (refer to TPA Action Plan, Section 9.3), lead regulatory agency, affected Hanford

300-FF-2

contractor, DOE Project Manager, project/contractor Document Custodian, and others as appropriate. Maintain the original Change Notice per approved Records Management procedures.

---

## Introduction

The 618-10 and 618-11 Burial Grounds are specifically included in this revision of the RDR/RAWP, but it is anticipated that a separate sampling and analysis plan (SAP) or sampling and analysis work instructions will be prepared for these two burial grounds. In addition, waste sites recently added to the 300-FF-2 ROD by the 2009 ESD (EPA 2009) are included in this revision.

Appendix A provides additional detail for each waste site, as well as remedial action status. Figures 1-2 and 1-3 show the locations of various 300-FF-2 waste sites to be addressed. Information on many of these sites can also be found in the *Focused Feasibility Study for the 300-FF-2 Operable Unit* (300-FF-2 FFS) (DOE-RL 2000a).

Twenty-six candidate sites (also referred to as "remaining sites") consistent with the 300-FF-2 OU waste profile have been identified, but additional site characterization data are required to evaluate the basis for action either through sampling or historical data. This site characterization effort is required by the 300-FF-2 ROD (EPA 2001) and will be presented in separate site-specific work instructions (WIs) as discussed in the *300 Area Remedial Action Sampling and Analysis Plan* (300 Area SAP) (DOE-RL 2009a). If site characterization results indicate that remedial action is needed, the waste sites will be plugged into the removal, treatment, and disposal remedy under this RDR/RAWP. If no remedial action is needed, the waste sites will be categorized as "no action." These candidate waste sites are also called confirmatory sampling sites. The 300-FF-2 ROD and the 2009 ESD (EPA 2009) also provide the guidelines by which newly discovered sites may be designated for RTD or categorized as candidate sites for no action. If site characterization indicates that remedial action is needed or that no action is required, the disposition of these waste sites will be included in the annual fact sheet published by DOE identifying the plug-in sites that have been added and the reclassification of waste sites to "no action."

A 2011 ESD changed the approach to bottles containing liquids in the 618-10 burial ground. The ESD modified the remedy for 618-10 to allow for necessary treatment of liquid waste in bottles, up to one gallon per bottle, to occur in a tray or box within the excavation area in accordance with an approved work plan. Because of the unknown integrity of bottles, removing each bottle from the excavation for individual handling poses a safety challenge. Safety for both workers and the environment can be improved if the bottles are placed into a tray or box in the excavation for in-hole treatment.

As it is determined that sites will remain active in the future, this document will require revision to reflect the changes in the remediation strategy and to update any previous information that has been changed because of new developments.

### 1.2.2 300-FF-1 Operable Unit

The 300-FF-1 OU covers an area of approximately 47.4 ha (117 acres) and consisted of solid waste and contaminated vadose zone soils for the major 300 Area liquid/process waste disposal sites, the 618-4 Burial Ground, and three small landfills. Remediation of these waste sites was completed in 2004. The 300-FF-1 liquid/process waste sites were unlined trenches and ponds

## Remedial Action Approach and Management

- Material that is free of anomalous waste and below cleanup levels may be stockpiled onsite for use as backfill material. In certain situations, soil may be placed over material excavated within a waste site or discovered within a staging pile as a temporary measure. Such action may be undertaken to minimize an imminent threat to the worker (e.g., a high-dose item is uncovered, and a temporary soil cover is appropriate to control worker exposure). Temporary covering with soil may also be undertaken to prevent windborne dispersal of excavated material or highly contaminated soil and to maintain segregation from other waste site materials. These temporary measures may be undertaken while plans are developed for safe re-excavation and removal of waste site materials. In these instances lead regulator notification will be made.
- Excavated material that has been packaged may be returned to an excavation area or staging pile area in situations where the dose rates, contamination levels, free liquids, or other abnormalities have subsequently been determined to exceed normal transport requirements. In these situations, when repackaging is necessary, the previously excavated material will be reloaded into the transportation container. Notification to the lead regulatory agency is generally not required for these actions. The exception is LDR waste, which shall be managed in accordance with the second bullet above.
- An approved LDR treatment method for radioactively contaminated cadmium-, silver-, and mercury-containing batteries allows for macroencapsulation prior to disposal. However, lead-acid batteries are not covered by this standard and require initial treatment (draining corrosive liquids, treating separately prior to disposal) (DOE-RL et al. 2005b).
- If spent nuclear fuel (SNF) is discovered, it must be managed as spent nuclear fuel and is not eligible for disposal in ERDF. Shielded bunkers will be used for interim storage of the SNF with minimum specifications of (1) a 1.8-m (6-ft)-tall security fence, and (2) a bunker constructed of concrete shielding blocks including a heavy metal lid or concrete shielding block cover. SNF will be characterized for shipment to the 100-KW Fuel Storage Basin or the Canister Storage Building until an offsite storage or disposal facility authorized to manage SNF becomes available (DOE-RL et al. 2005b).
- If transuranic (TRU) material is discovered, it must be identified as either contact-handled transuranic (CH-TRU) waste or remote-handled transuranic (RH-TRU) waste and managed in accordance with the waste acceptance criteria of the receiving facility (WCH 2007b).
- For the 618-10 Burial Ground, treatment of liquid waste in bottles, up to one gallon per bottle, will occur in a tray or box within the excavation. Bottles will be placed in a spaced pattern into a containment structure within an excavated trench. Bottles will be covered with soil and fixative and then crushed. Crushing may occur individually or in a batch process. After all bottles in the tray are crushed, they will be stabilized by mixing with grout. Post-treatment verification sampling will be performed to demonstrate compliance with land disposal restrictions and disposal facility acceptance criteria. The requirements are met by mixing the liquid into grout which immobilizes metals and radioactive metals expected in the waste, and neutralizes acids. A grab sample from each treatment batch will be subject to

laboratory analysis to confirm that the treated waste falls below the Land Disposal Restriction limits for COCs in accordance with the 300 Area Remedial Action Sampling and Analysis Plan (DOE/RE-2001-48). Liquid waste treated in this manner will be subsequently handled as bulk waste as described below or may be transported for disposal as a monolith within an acceptable container.

Excavated material will be surveyed and characterized for appropriate disposition prior to undertaking disposal of materials. When excavation of a waste site is complete, exposed dig faces will be evaluated to verify that remedial action goals have been met. When RAGs have been met and backfill concurrence is obtained from the lead regulatory agency, site backfill will be authorized. (Note: Unless specified otherwise, the term "backfill" as used in this document refers to filling in the excavation once post-waste site remediation sampling has demonstrated that RAGs have been met). Clean backfill material is obtained from clean material storage areas, approved/clean rubble, and local borrow sites. Excavations are backfilled so the sites conform to local topography.

### **3.5.3 Material Handling and Transportation**

All contaminated materials (including excavated soils, debris, disposable protective clothing, air filters, and trash) require proper packaging, handling, and transportation in accordance with the waste management plan prescribed in Section 4.0. Contaminated bulk materials will be hauled in the standard ERDF open-top, hinged-gate roll-off boxes that are designed for a maximum capacity of approximately 18.1 metric tons (20 tons) and 22.7 metric tons (25 tons). The bulk containers will be transported on roll-on/roll-off trailers with hydraulic dumping capabilities that are towed by conventional tractor units. Drummed waste will be hauled on flatbed tractor-trailer units. The trailers and tractors will be suitable for operating on sloped excavation access ramps and other off-road ramps, and meet applicable DOT requirements. The wheel wells of the tractor will be constructed to prevent soil from being thrown onto the trailer and its containers during transport.

Weighed containers will be transported from the 300 Area to the ERDF over existing Hanford Site roadways. Each shipment of soil/debris transported to the ERDF will be referenced to a waste profile that is intended to bound the material found at the site. The waste profile is in effect until the characteristics of the excavation site have changed significantly. Empty containers returning from the ERDF will be removed from the ERDF tractor trailers in the CTF and rolled on to project haul trucks for refilling. The CTF helps to maintain a continuous flow of materials through the transportation system by allowing excavation to continue for a limited time if the trucks running to the ERDF are not operating, or it allows ERDF trucks to continue to run for a limited time if the excavators are not operating.

The containers are inspected for the presence of water prior to placing a liner or waste into the container. When water is found in a container with an estimated volume of 151 L (40 gal) or less (less than a depth of 1.27 cm (0.5 in.) in the bottom of the container), the water will typically be used as an aid for dust suppression in the adjacent radiological excavation, staging pile, or radiological debris piles in a manner that is consistent with regulator-approved work plans. When water is found in the container with an estimated volume greater than 151 L (40 gal), lead