

0055697

Change Number M-83-01-05	Federal Facility Agreement and Consent Order Change Control Form Do not use blue ink. Type or print using black ink.	Date 9/26/2001
-----------------------------	--	-------------------

Originator Larry Romine	Phone 376-4747
----------------------------	-------------------

Class of Change

I - Signatories
 II - Executive Manager
 III - Project Manager

Change Title

Establish one new PFP interim milestone for the disposition of Sand, Slag and Crucible (SS&C) (M-83-11).

Description/Justification of Change

This change request is for the repackaging and storage of repackaged containers of Hanford Sand, Slag and Crucible (SS&C) residue destined for disposal at the Waste Isolation Pilot Plant (WIPP). The SS&C has been designated as a regulated mixed waste.

The storage of SS&C pipe overpack containers (POCs) at PFP will be managed in accordance with WAC 173-303-400, unless otherwise noted in Section 1.

Impact of Change

Approval of this change request establishes a new interim milestone governing the repackaging and storage of the SS&C mixed waste located at PFP prior to shipment of the POCs to the Central Waste Complex. On approval, Hanford Site planning and budget development documents (e.g., Multi Year Work Plans, Site Wide Systems Engineering Control Documents, and Project Management Plans) will be modified as required.

Affected Documents

The Hanford Federal Facility Agreement and Consent Order, as amended, DOE's Annual Land Disposal Restrictions Report, and Hanford Site internal planning and budget documents (e.g., Agreement Action Plan, Appendix D, DOE and DOE contractor Baseline Change control documents, Multi Year Work Plans, Sitewide Systems Engineering Control Documents, Project Management Plans, and the Hanford Site Integrated Priority List).

Approvals

<u><i>W. Wade Ballard</i></u> DOE	<u>10/23/01</u> Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
<u>N/A</u> EPA	_____ Date	<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved
<u><i>Michael R. Lett</i></u> Ecology	<u>10/23/01</u> Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved

RECEIVED
NOV 01 2001
EDMC

Description of Locations Covered by this Change Request.

1. Scope

This Change Request covers regulated dangerous waste activities required to repack the SS&C mixed waste currently stored at PFP, and the subsequent storage and transfer of the repackaged SS&C to the Central Waste Complex (CWC). These activities will be conducted in PFP Bldg. 234-5Z. Repackaging and storage activities will be conducted in Rooms 170, 242B and 192D. Room 169 will be used for interim storage of lard cans prior to repackaging activities as necessary. Glovebox HC-46F, located in room 170, will be used for repackaging the SS&C. Additionally, SS&C items removed from glovebox HA-20MB will be stored in room 192D until repackaged in POC's.

Note: The Pipe and Go packaging storage areas in Rooms 170, 242B and 192D may also be used during this timeframe for the packaging and storage of non-mixed waste as necessary to support eventual disposal at the Waste Isolation Pilot Plant (WIPP).

The management of SS&C mixed waste will be carried out in compliance with the applicable and substantive requirements of Washington Administrative Code (WAC) 173-303-400, except as noted below:

- Hazardous waste labeling as described in Section 4 and the subsequent storage activity that will meet criteria described in Section 5.

2. Identification of Waste

The SS&C is a product of the production and processing of plutonium metal buttons at Hanford. Process knowledge was used to designate SS&C as mixed waste, to be disposed of at the WIPP. The SS&C was generated during the process of converting plutonium powder to plutonium metal. A "reduction charge", consisting of a mixture of plutonium fluoride powder, iodine, and calcium, was placed in a magnesium oxide crucible. The crucible, along with the thermal conductivity and shock insulation material (magnesium oxide sand), was placed in a reduction vessel and heated in an induction furnace. The charge fired when the temperature reached approximately 350°C and the temperature climbed rapidly in the furnace to about 816°C. After reduction, the cooling vent valve was opened and dry glovebox air was allowed to flow past and cool the reduction vessel. After processing through the furnace, the crucible was broken to remove the plutonium metal button and the magnesium oxide sand was discarded along with the crucible pieces and slag (SS&C). The SS&C was processed through a hammer mill and canned.

Per the Waste Analysis Plan (Attachment B) of the WIPP Hazardous Waste Permit, the SS&C waste stream is included in the Debris Waste Summary Category Group. DOE-RL was initially certified for debris waste in Calendar Year 2000. Continued shipment of debris waste to WIPP will be contingent upon annual re-certification of the Hanford TRU Waste Program. RL and its contractors will maintain compliance with applicable requirements and complete appropriate corrective actions, as necessary, to maintain the certification of the Hanford TRU Program through the life of the program.

SS&C mixed waste was generated as a result of plutonium button manufacturing at PFP. SS&C mixed waste comprises approximately 2,200 kg of the total Pu-bearing residues stored at PFP.

The SS&C will be repackaged into approximately 310 pipe overpack containers (POC) and transferred to CWC to await certification and transport to WIPP.

3. Characterization and Sampling

Ecology has been provided information that supports designation of the SS&C. Based on process knowledge, the SS&C at PFP designates as a mixed waste and carries the following waste codes: WSC2 and WT02.

4. Container Management

SS&C mixed waste containers will be obtained from current PFP storage locations and moved to Room 170 of the 234-5Z Building. The containers will be opened, the contents examined and blended with clean silica safeguards labeled, and assayed via a Segmented Gamma Scan Assay System or calorimeter in room 242B. The assayed containers will be placed into 55-gallon drums (POCs), which will be appropriately labeled to meet dangerous waste regulatory requirements. An operations log will track each step of the process. The plutonium content of the POCs will be limited to less than 200 grams within the packaged materials. Approximately 310 POCs are expected to be generated. The POCs will be managed in accordance with WAC 173-303-630, Use and Management of Containers. When transportation from Hanford is scheduled, the POCs will be packaged in TRUPACT-II containers for final transport to WIPP.

While SS&C containers are stored in the vaults/vault-type rooms, they are labeled with a unique identification number, which is carefully tracked. Inspections of SS&C in the vaults/vault-type rooms are made no less frequently than monthly. The containers are inspected to ensure they remain in good condition during storage until repackaging is accomplished. Aisle spacing is consistent with criticality safety requirements.

5. Disposition of Waste

POCs containing the blended SS&C mixed waste will remain within 234-5Z, Room 170, until they are moved to Room 192D for storage while awaiting transfer to CWC. Preparation activities (i.e., staging and paperwork) for shipment of the POCs will be performed in room 192 and/or the loading dock. Waste transferred to CWC will meet CWC's acceptance criteria and comply with applicable dangerous waste management requirements while awaiting certification and transfer to WIPP.

6. Schedule

The schedule and deliverables for performing this work are described in the M-83-11 milestone below.

This change control form establishes the following interim milestone for the repackaging and transfer of the SS&C mixed waste to the CWC.

<u>Interim</u>	<u>Description</u>	<u>Due Date</u>
M-83-11	Complete repackaging and shipment of SS&C mixed waste currently stored in PFP to the Central Waste Complex for storage.	January 30, 2004

“Does not contain classified or unclassified controlled nuclear information”