Perform Reusable Contaminated Equipment Packaging and Labeling

Tank Farm Plant Operating Procedure

BURIAL AND WASTE

USQ # TF-16-0081-S, Rev 1

CHANGE HISTORY (≤ LAST 5 REV-MODS)

<table>
<thead>
<tr>
<th>Rev-Mod</th>
<th>Release Date</th>
<th>Justification</th>
<th>Summary of Changes</th>
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<tr>
<td>B-1</td>
<td>11/19/2018</td>
<td>Periodic review comment resolution.</td>
<td>Added new section 2.2.5 to identify MOP requirements and the Purpose was corrected from &quot;personal&quot; to &quot;personnel&quot;.</td>
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<tr>
<td>B-0</td>
<td>01/21/2016</td>
<td>Periodic review comment resolution.</td>
<td>Summary: Redone the Radcon Section. Added the form number for the RCE Inventory Sheet (A-6003-886).</td>
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<tr>
<td>A-1</td>
<td>09/17/2013</td>
<td>Waste Handling request in response to ORP CAP.</td>
<td>Added wording to the scope (Section 2.1). Added new bullet to Section 4.1. Added new Step 5.4.3.</td>
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<tr>
<td>A-0</td>
<td>08/26/2013</td>
<td>Operations request.</td>
<td>New procedure</td>
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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions and directions to tank farm operations personnel for planning and effectively managing tank farms Reusable Contaminated Equipment (RCE). It identifies the activities to be performed by RCE over-site personnel and the interfaces with Waste Services (WS) required for effective RCE management.

1.2 Scope

This procedure applies to the planning, inventorying, packaging, and documenting of Reusable Contaminated Equipment at tank farms and associated facilities controlled by WRPS in 200 East Area, 200 West Area, and 600 Area. This procedure implements requirements listed in TFC-ESHQ-RP-STD-06, Packaging of Radioactive Material.

This procedure can be performed in multiple locations. A work area and/or location specific General Hazards Analysis and/or Job Hazard Analysis must be performed prior to starting the activity per TFC-ESHQ-S_SAF-C-02.
2.0 INFORMATION

2.1 Terms and Definitions

2.1.1 Contaminated equipment:

Contaminated equipment is an item managed by the TOC that would be designated and dispositioned as low level or mixed waste once the equipment is discarded or abandoned. Per DOE policy 95-PCA-337, “Management of Contaminated Equipment at the Hanford Site,” Contaminated Equipment can be categorized as either:

- Waste
- Installed and/or Inaccessible (AKA “in use”)
- In-Use or
- Reusable.

2.1.2 Installed and/or Inaccessible contaminated equipment:

Equipment that is installed and/or inaccessible by plan or design and is an integral part of a Tank Operations Contract Facility, which is inaccessible, or isolated from the public and the environment. The following are examples of installed/inaccessible/in-use equipment:

- Jumpers and valves installed in pits
- Transfer lines
- Tank ventilation system components
- Instrument trees, pumps, liquid level monitors installed in tanks
- Equipment in inactive facilities
- Laboratory analytical equipment.

2.1.3 In-Use Contaminated Equipment:

Equipment items that are used to perform specific work functions and/or activities which are; staged for active use and/or managed and controlled under a Work Process document (i.e., Work Package or Operations Procedure).
2.1 Terms and Definitions (Cont.)

2.1.4 Reusable contaminated equipment (RCE) is either functional or failed equipment:

2.1.4.1 Functional equipment is equipment that is operable and has a clear purpose or function and is not intended for discard. Functional equipment may need routine maintenance (e.g., preventative maintenance) to maintain equipment operability.

2.1.4.2 Failed equipment is equipment that has failed and needs to be examined to determine reason for failure and/or requires extensive work to regain operability of the equipment.

2.1.5 Waste Equipment:

Waste equipment is contaminated equipment that is intended for discard or has been abandoned. This category of equipment includes both mixed waste equipment and low level waste equipment.

2.2 General Information

2.2.1 The WS RCE program provides:

- Packaging requirements
- Packaging instructions
- RCE Forms
- Required labels, markings and containers
- Additional guidance on RCE management.

2.2.2 RCE owners must utilize the technical expertise available in WS for successful implementation of this procedure.

2.2.3 Containers and impermeable materials used for holding RCE will be compatible with that RCE and be UV protective.

2.2.4 RCE must have a completed RAD survey before packaging, survey number must be documented on the RCE Inventory.

2.2.5 Each RCE /Owner or designee and the RCE Lead will perform a MOP of each RCE area once per fiscal year. MOPs will be performed monthly until each area has been assessed. Areas where MOP identifies corrective action(s) may have a follow up MOP performed within the same fiscal year.
3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel Safety

3.1.1 If not blocked, braced, or secured, items in the container can move in transit and result in damage to the container or a change in dose rate. A change in dose rate can result not only in a transportation violation but increased radiation exposure.

3.1.2 A Job Hazard Analysis Checklist (A-6004-101) is required to identify the appropriate hazards and controls when handling Asbestos, Infectious Biological, PCBs, Beryllium or when chemicals and/or chemical products are used.

3.2 Radiation and Contamination Control

3.2.1 When this procedure is worked in radiological areas, an approved radiological work permit (RWP) is required. If radiological conditions or work performed falls outside the scope of the RWP, all work activities must be discontinued until a new or revised RWP has been issued in accordance with TFC-ESHQ-RP_RWP-C-03, ALARA Work Planning.

3.3 Environmental Compliance

3.3.1 At a minimum, pre and post-job contamination surveys shall be taken.

3.3.2 Radiological monitoring shall be in accordance with the latest revision of HNF-5183, Tank Farms Radiological Control Manual.
4.0 PREREQUISITES

NOTE - Selection of supplies is dependent on the work being performed. The following list includes supplies needed for a variety of work. Due to the prescriptive nature of the work, management may specify selection or addition of supplies.

4.1 Special Tools, Equipment and Supplies

The following approved packaging materials may be needed to perform the tasks of this procedure.

- 2-inch wide plastic reinforced cloth tape
- Approved absorbent material
- Approved padding material
- Approved void space filler
- Impermeable material consistent with storage location (inside/out side)
- Non reinforced plastic liners (drums)
- Nucfil 013™ filter or equivalent
- Permanent black ink marker
- Plastic liners (boxes)
- Radioactive Material Tags
- Socket wrench (15/16") with ratchet
- Socket (3/4") and open end wrench (3/4")
- Zip ties
- Rope
- Coffins (Split PVC pipe)
- Other tools, equipment and supplies as identified by Shift Manager/OE/FWS.
4.2 **Performance Documents**

The following documents may be needed to perform this procedure:

- TO-100-052, Perform Waste Generation, Segregation, Accumulation and Clean-up
- Reusable Contaminated Equipment Inventory Sheet (A-6003-886).

4.3 **Field Preparation**

4.3.1 **PRIOR** to starting any work, **ENSURE** a work area and/or a location specific general hazards analysis and/or job hazards analysis is performed per TFC-ESHQ-S-SAF-C-02.

4.3.2 **IF** biological hazards are found during inspection of the work area **PERFORM** cleanup/removal per TO-100-052.
5.0 **PROCEDURE**

NOTE - Sections and steps within each section of this procedure may be performed in any logical order.

5.1 **Planning Prior to Entry into the RCE Program**

5.1.1 **CONFIRM** packaging requirements are implemented into work package instructions.

5.1.1.1 **IF** new packaging requirements are discovered after the work package has been approved, **ENSURE** work package instructions are updated to the new requirements.

5.1.2 **CONFIRM** Field Work Supervisor has identified all RCE items to be managed to the Planner.

5.1.3 **COMPLETE AND SUBMIT** a Tank Farm Container Request form (A-6002-935) to Waste Operations Dispatch for drums and boxes.

5.2 **Packaging RCE in Drums**

5.2.1 **WHEN** ready to package RCE, **APPLY** proper RCE labels/markings to drum via two independent methods (e.g., tied and taped).

5.2.2 **PERFORM** radiological surveys of contaminated equipment.

5.2.3 **PAD** any sharp points or edges and any large bulky items and use material such as:

- Rags
- Towels
- Cardboard
- Fiberboard
- Cloth Tape
- Plastic wrap
- Paper.

5.2.4 **ENSURE** radioactive material tags are securely attached via two independent methods (e.g., tied and taped) to contaminated equipment.
5.2 Packaging RCE in Drums (Cont.)

5.2.5 BLOCK, BRACE, OR SECURE items in the container so they cannot move during transport.

5.2.6 CLOSE container.

5.2.7 PLACE locking ring around the drum and lid ensuring the gasket is placed properly.

5.2.8 SECURELY TIGHTEN bolt and locking nut.

5.2.9 SURVEY drum AND APPLY Radioactive Material Tag on outside of drum.

5.2.10 RECORD survey number(s) on the RCE inventory sheet (A-6003-886) by the end of shift.
Perform Reusable Contaminated Equipment Packaging and Labeling

5.3 Packaging RCE in Metal Boxes

5.3.1 PRIOR to placing RCE in box, ENSURE bolts have been removed from inside the container and appear to be in good condition.

5.3.2 WHEN ready to package RCE, APPLY proper RCE labels/markings to metal box via two independent methods (e.g., tied and taped).

5.3.3 PERFORM radiological surveys of contaminated equipment.

5.3.4 PAD any sharp points or edges and any large bulky items using material such as:
- Rags
- Towels
- Cardboard
- Fiberboard
- Cloth tape
- Plastic wrap
- Paper.

5.3.5 ENSURE radioactive material tags are securely attached via two independent methods (e.g., tied and taped) to contaminated equipment.

5.3.6 BLOCK, BRACE, OR SECURE items in the container so they cannot move during transport.

5.3.7 REQUEST appropriate craft personnel PERFORM final closure of the box to manufacturer's specifications.

5.3.8 IF lid lifting attachments are present, ENSURE those attachments are rendered inoperable.

5.3.9 SURVEY metal box AND APPLY Radioactive Material Tag on outside of box.

5.3.10 RECORD survey number(s) on the RCE inventory sheet (A-6003-886) by the end of shift.
5.4 Packaging RCE with Impermeable Material

5.4.1 **PERFORM** radiological surveys of contaminated equipment.

5.4.2 **PAD** any sharp points or edges and any large bulky items using material such as:
   - Rags
   - Towels
   - Cardboard
   - Fiberboard
   - Cloth tape
   - Plastic wrap
   - Paper.

5.4.3 **WRAP/Cover** RCE with impermeable material 4 mil or more in thickness **AND**
   **SECURE** with 2-inch wide, fabric reinforced tape. (In addition to the tape, rope may be used to better secure the impermeable material. The storage location (inside/outside) will determine which impermeable material should be used.)

5.4.4 **WRAP/Cover** RCE with impermeable material and secure with tape and/or rope.

5.4.5 **APPLY** proper RCE labels/markings to impermeable material via two independent methods (e.g., tied and taped).

5.4.6 **SURVEY AND APPLY** updated radioactive material tags securely via two independent methods (e.g., tied and taped) to impermeable material.

5.4.7 **RECORD** survey number(s) on the RCE inventory sheet (A-6003-866) by the end of shift.

5.5 Records

No records are generated during the performance of this procedure.