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Distribution			Abstract		
*	Name	Mail Addr.	This procedure describes the requirements for radioactive materials, and waste management at the RMHF, including the waste acceptance criteria, and the receiving, processing, storage and preparation for shipment. This document supersedes document RMHF-SP-0003, Revision <u>A</u> .		
			Shipment of radioactive waste to DOE-NTS, DOE-Hanford, and Envirocare is addressed in EID-04482.		
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Supporting Document Summary of Change

No. EID-04494

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A	Added to document Title “and Waste Acceptance Criteria”, revised Sections 3, 4, 7 to include waste acceptance requirements, added step 8.1.15, and other minor editorials.	R. Marshall R. Amar S. Reeder P. Rutherford B. Sujata 01-23-01 CV

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1. ACRONYMS

CPSOP	Canoga Park Standard Operating Procedure
D&D	Decontamination and Decommissioning
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DTSC	Department of Toxic Substance Control
DWP	Detailed Work Procedure
ETEC	Energy Technology Engineering Center
EWR	Engineering Work request
HP	Health physics
HOLD AREA	RMHF radioactive material container Hold Area
LOT FOLLOWER	Radioactive Material lot Follower and Procedure Verification
NRC	Nuclear Regulatory Commission
NTS	Nevada Test Site
NTSWAC	Nevada Test Site Waste Acceptance Criteria
PIC	Person In Charge
PMP	Program Management Plan
QA	Quality Assurance
RCRA	Resource Conservation and Recovery Act
RMHF	Radioactive Material Handling Facility
RMMA	Radioactive Material Management Area
RTS	RMHF Tracking System
SAR	Safety Analysis Report
SHEA	Safety Health and Environmental Affairs
SSFL	Santa Susana Field Laboratory
TID	Tamper Indicating Device
STP	Site Treatment Plan
TS&A	Technical Support and Administration

2. DEFINITIONS

- (1) **Package:** A *container* with radioactive material content, or *stored item* that is contaminated with radioactivity or is activated. Such material could be waste or non-waste.
- (2) **Sealed Package:** A *package* for which (1) the packaging (container) meets the DOT package criteria, (2) the radioactive material and packaging operation meets the designated receiving (disposal) site criteria, (3) all the package related documents have been completed, and (4) the RTS entries have been completed and verified.
- (3) **Automatic item Hold:** Assigned by definition to all “S” *numbered packages* (see 8.1.7). An “S” numbered package may be placed in storage outside the HOLD

AREA in the RMHF, but may not leave the RMHF unless it has been characterized, inspected and a QA Inspection Tag has been attached.

3. PURPOSE

The purpose of this document is to ensure accurate and documented control of all radioactive materials received at, in storage at, in process at, or shipped from the RMHF. This document presents the procedure for radioactive materials management and defines the radioactive waste acceptance criteria (WAC) per the requirements of DOE Order 435.1 and the RMFH Operations Plan.

4. SCOPE

This document is applicable to radioactive waste, equipment and materials received, processed, stored, and shipped from the RMHF. Specifically, the following elements are addressed:

- (1) Receipt criteria and physical inspection of a radioactive material (including waste) packages, review of accompanying documentation for compliance, and entry of required data into the RMHF electronic tracking system (RTS);
- (2) On-site storage and handling including physical inspection of packages and characterization of contents, including hazardous constituents, if any, and regulatory notification, if required;
- (3) Final disposition including proper packaging and radiological survey for transfer to other radiological facilities or release for general use.

Handling, packaging, shipment to, and receipt from approved laundry services of radioactively contaminated protective clothing are covered by **EID-04492**, and are not addressed in this document.

The process flow diagram for radioactive material handling at the RMHF, including review of hazardous constituents, is presented in Figures 1 and 2.

5. REFERENCE DOCUMENTS

1. EID-04482 Packaging and Shipment of Radioactive Waste
2. EID-04486 Procedure for Using the RMHF Tracking System (RTS)
3. EID-04451 On-Site radioactive Materials Transfer Plan
4. EID-04492 Procedure for Packaging & Shipping of Radioactively Contaminated Protective Clothing
5. EID-04493 Procedure for Packaging and Shipping of Radioactive Materials
6. QA- 00001 Quality Assurance Program Plan for ETEC Closure
7. RS- 00011 Procedures for Surveys of Radioactive Shipments
8. EPA-00061 DOE Order 435.1 Implementation
9. N001OP000034, "Procedure for Surveying and Releasing Non-Radioactive Waste

- from Radiological Facilities”
10. ER-SP-0001, “Management and Disposition of Known or Potentially Hazardous Waste Originating in a RMMA”
 11. Boeing CPSOP- C. “Safety, Health & Environmental Affairs (SHEA)”
 - C-200 Series: “Environmental Protection”
 - C-400 Series: “Radiological Health” (& Transportation)

6. RESPONSIBILITIES

6.1 Manager, DOE-Site Restoration (D/117)

D/117 manager has overall responsibility for implementation and adherence to the requirements of this procedure.

6.2 RMHF Facility Engineer

The RMHF facility engineer has direct responsibility for implementation of this procedure. RMHF operations personnel are responsible for handling of all radioactive material within the facility and accurate and timely input of required data into the RTS. The key responsibility is to ensure that all radioactive material entering the RMHF is managed in accordance with the requirements specified in this document.

6.3 Quality Assurance

Quality Assurance is responsible for establishing and administrating the QA program in accordance with **QA-00001** to ensure that the requirements of this procedure are implemented and maintained in a timely and accurate manner.

6.4 Radiation Safety (D/641)

D/641 health physicists (HP) are responsible for performing all radiological monitoring, surveys, and preparation and distribution of associated documentation of radiological data in accordance with this procedure.

6.5 DOE-Site Restoration (D/117)

D/117 provides guidance and oversight for RCRA, State of California Title 22, Washington State WAC 173-303, and DOE-Nevada NTSWAC compliance issues at the RMHF. Environmental personnel also provide assistance in waste characterization, sampling and analysis and designation as delineated in **CPSOP C-203**.

7. GENERAL REQUIREMENTS

7.1 Waste Acceptance at the RMHF

Waste accepted at the RMHF must originate at an ETEC generating facility, and must comply with an approved Waste Certification Plan (WCP). Waste generated at the RMHF shall be handled and documented in the same way as waste from other facilities. Waste from all facilities, other than the RMHF must have RMHF approval prior to the transfer to the RMHF.

7.2 Inventory & Documentation of Radioactive Material

All radioactive material packages at the RMHF shall be tracked by the RTS. The required information shall be entered into the RTS, and shall include a designation as to the status of the package. Sealed Packages shall have a TID attached to container or an Inspection Tag attached to storage item, both with a QA stamp. Non-Sealed packages shall have a “Hold Tag” attached to container. All “S” numbered packages are “On Automatic Hold” (are non-shippable) and, therefore do not require a “Hold Tag”. A “S” numbered package may not be removed from the RMHF without an Inspection Tag.

Empty containers issued by the RMHF to generating facilities for storage and packaging of radioactive materials shall be assigned an RTS number and entered into the RTS as “EMPTY”.

The RTS shall be updated to accurately record changes in the identifying characteristics (size, dimensions, radiation levels, curie content, etc.) of any package due to processing. If the material is repackaged into a new or existing container and the container in which the material was received is emptied, or the contents changed, the RTS information for all affected containers shall be updated and new RTS number shall be assigned as required. Relocation of a package from one storage location to another shall be recorded in the RTS.

7.3 Packaging of Radioactive Material at RMHF

Packaging of radioactive material and waste shall be performed per specific procedures that address the DOT requirements and the destination (disposal) sites unique requirements as detailed in **EID-04482**, and **EID-04493**, or other similar document that may be prepared in the future.

7.4 On Site Shipment (at SSFL)

All movement of radioactive material between facilities at SSFL shall be performed to the requirements of **EID-04451**. This procedure allows certain deviations from full DOT compliance for shipping papers and marking and labeling as shipment is not on a public highway, but is fully within the confines of Boeing property at the SSFL.

7.5 Off-Site Shipments

Off-site Shipment of radioactive material or waste shall conform to the requirements of **CPSOP C-404**, **EID-04482**, **EID-04493**. Shipment of radioactive material between Boeing facilities is an off-site shipment since transport is on public roads and is subject to full DOT compliance.

Proper packaging of all radioactive material designated for off-site shipment, shall be determined by RMHF personnel with the assistance of SHEA TS&A. In particular, RMHF personnel shall verify that the of destination site requirements, and the DOT requirements

are met prior to staging of any off-site shipment. Destination site requirements are specified in the site radioactive material acceptance criteria, radioactive material license, or Waste Acceptance Document, and the applicable generating facility Program Management Plan (PMP).

7.6 Release of Material from RMHF as Non-Radioactive (Clean) Material

Items/packages that have been verified by a radiological survey to be non-radioactive (clean), may be released from the facility for reuse or as clean scrap in accordance with procedure **N001OP000034**. Any item/package designated as non-radioactive waste (potentially hazardous) shall be released from the facility in accordance with **CPSOP C-203**, and procedure **ER-SP-0001**. Any released item/package shall have a radiological survey documentation (form 732-A) on file at the RMHF health physics office. If the item/package was received at the RMHF as radioactive material, it shall be traceable to the form 732-A by its RTS number. If the item/ package was not radioactive (never radioactive activated or contaminated), the releasing survey documentation must identify the item by means of manufacturer's part number and serial number, or physical description with adequate details to identify the item/package, refer to procedure, **N001OP000034**.

8. PROCEDURE FOR HANDLING OF RADIOACTIVE MATERIAL

The process flow diagram for the steps outlined in this Section for receipt, processing and shipment of radioactive materials is presented in Figure 1.

8.1 Receipt of Material

8.1.1 (RMHF PIC): Upon receiving a request to send any radioactive package to the RMHF, request that the following documents be submitted, as a minimum, for review prior to delivery:

- (1) Radioactive Material Lot Follower (form 652-A)
- (2) Radiation Survey Report (form 732-A)

(Radioactive waste packages may be delivered from the SSFL locations directly to the RMHF with documentation specified in ETEC Closure Program plans and procedures as these documents incorporate full QA oversight during packaging and handling)

8.1.2 (RMHF PIC): Review the package documentation and verify that the physical, chemical and radiological description is adequate (Sections A-D, F, G, L, N, O of form 652-A). Verify that the RMHF permit allows the storage of the materials in the package at the RMHF. Hazardous wastes shall be sufficiently characterized to ensure safe storage at the facility. If satisfactory, inform the shipper to proceed with shipment, if not satisfactory, request that the deficiencies be corrected first.

8.1.3 (RMHF PIC): upon delivery of any radioactive package to the RMHF, verify that as a minimum, the package is accurately described in the following documents provided and reviewed in steps 8.1.1 and 8.1.2 above:

- (1) A Radioactive Material Lot Follower (form 652-A)
- (2) Radiation Survey Report (form 732-A),

As required by the packaging procedure used, and specified in section C of the accompanying form 652-A, some or all of the following forms may also be delivered with the package:

- (1) Radioactive Container Survey form,
- (2) A Radioactive Material Tag (form 708-R)
- (3) Radioactive Materials Shipping Instructions (form 710-S-1),
- (4) Hazardous Waste Label (form 642-J),
- (5) Waste Container Traveler.

RMHF personnel must be present to accept deliveries of all radioactive material packages. **Unattended radioactive material packages shall not be left at the RMHF gate, and shall not be admitted into the RMHF if left at the gate.**

8.1.4 (RMHF PIC): Review documentation. Verify that all required documents have been delivered, verify accuracy of description by physically viewing the delivered package, and verify the container is in good condition. If container is ready to ship, (sealed package), place in storage, otherwise, direct the package to the HOLD AREA. If documentation is incomplete, assist the shipper (generator) to correct all discrepancies and deficiencies.

NOTE: **All non-shippable radioactive packages received at the RMHF must be transferred to the RMHF “Radioactive Material Hold Area” (HOLD AREA). No package (item or container) may be removed from the HOLD AREA until the required actions identified in this section are completed.**

8.1.5 (RMHF PIC): Initiate hazardous constituents review of the package placed in Hold area per Figure 2, and in parallel, request the RMHF health physicist to perform a radiological survey of the package to confirm the radiological information on the attached documentation.

8.1.6 (RMHF health physicist): Perform a radiological survey for fixed and removable contamination of the package. Verify that the survey results are consistent with the information provided on the form 708-R attached to and the form 732-A accompanying the package, and enter the information in Section M of Lot Follower. Report any discrepancy to the RMHF PIC and the shipping facility health physicist. The RMHF health physicist or PIC may reject the package and return it to the originating facility if the discrepancies are determined to indicate miss-identification of the contents and are a potential exposure problem to RMHF personnel

NOTE: If a package is rejected back to the originating facility, new documentation must be prepared which completely and accurately describes the package and the package must be verified to be the proper shipping package for the material contained.

8.1.7 (RMHF PIC): If a package has no pre-assigned RTS tracking number, assign an RTS number. Obtain the number from the RTS database based on the package physical description and purpose for receipt at the RMHF. Rectangular metal waste containers from decontamination & decommissioning (D&D) projects shall be assigned a “B” series number, metal drums shall be assigned an “L” series number, and items received for storage shall be assigned a “S” series number. Details are provided below. Direct the RMHF personnel to stencil the assigned RTS No. on the side of the package in 2 in. tall letters.

8.1.8 (RMHF PIC): Enter all available data into the RTS based on a physical inspection of the package and a review of accompanying documentation as required by **EID-04486**. As a minimum the following information must be entered for each item or package:

- (1) RMHF Tracking ID (Unique S/N assigned from database)
- (2) Item/Container dimensions
- (3) Container Type (i.e. 1A2, drum, Type-3 box, Cask, NA, etc.)
- (4) Radioactive dose rate (Radioactive dose at contact and at 1 meter)
- (5) Manufacturer’s Serial No. (If applicable)
- (6) Assigned RMHF Storage Location (T621, T075, etc.)

8.1.9 (RMHF PIC): Forward to Radiation Safety (D/641) the Lot Follower (form 652-A), the Radiation Survey Report (form 732-A), and the Radioactive Container Survey Form if Sections N and O of the Lot follower are incomplete, for radiological calculations (Not required for “S” packages).

8.1.10 (Radiation Safety): Determine the radionuclides and radioactive content as specified in **RS-00011**, and other information, as required by Sections N and O of the Lot Follower and return the completed Lot Follower and supporting documentation to the RMHF.

8.1.11 (RMHF PIC): Enter the radiological data provided in step 8.1.10 into the RTS.

8.1.12 (RMHF PIC): If the package is a Sealed package (see Sec. 1 Acronyms & definitions), Request QA department representative to apply a “Tamper Indicating Device” (TID) to the container, or a stamped “Inspection Tag” to a package other than a container package. (Completed radioactive waste containers, packaged per **EID-04482**, and **EID-04493** are delivered to the RMHF with TID’s applied)

8.1.13 (RMHF PIC): After the TID/Inspection Tag has been applied, direct the RMHF personnel to remove the package from the **HOLD AREA** to the assigned storage location within the RMHF, and enter the new storage location into the RTS.

8.1.14 (RMFH PIC): Non-Sealed packages (“B” or “L” series numbers) which do not have complete documentation and completed RTS entries may be removed from the HOLD AREA only after a “Hold Tag” is attached and an entry made in the RTS identifying the reason for the “Hold Tag”. Stored item (“S” series numbers) may be removed from the **HOLD AREA** as soon as the “S” number has been stenciled on the item and entered in the RTS. For all packages, the minimum data identified in step 8.1.8 above must be entered in the RTS.

8.1.15 (RMHF PIC): Conduct Facility DOE Classification review periodically, as required to verify that the RMHF is within the classification limit.

8.2 Material Processing

Packages located at the RMHF may be processed by a number of methods, including; decontamination, size reduction, treatment, disassembly, repackaging, and consolidation. All such processing operations shall be performed in accordance with a specific Procedure or Engineering Work Request (EWR). During processing all such packages will remain on Hold.

8.2.1 (RMHF PIC): During processing, update the package lot follower (form 652-A) to accurately document changes in the content, including physical, chemical, and radiological data.

8.2.2 (RMHF PIC): If repackaging occurs, initiate a new lot follower for any new package or modify that of the existing package (specific instruction will be provided in the repackaging procedure used). Traceability must be maintained to the original lot follower and package through the RTS.

8.2.3 (RMHF PIC): Perform sampling of package contents as required based on evaluation of the receiving site criteria, as directed in the applicable shipping document and corresponding sampling and analysis procedure.

8.2.4 (RMHF PIC): At completion of any repackaging operation or other processing, request QA to verify contents and clear Holds, if any, and affix a TID or inspection Tag as appropriate.

8.2.5 (RMHF PIC): Update the RTS to document processing and repackaging.

8.2.6 (RMHF PIC): Any package being released as “Non-Radioactive” per reference document 9 may be transferred on the basis of signed 732-A form indicating “Acceptable for Non-Radioactive Disposal”. If such package has been assigned an RTS number, enter “Non-Radioactive Release” in the RTS.

8.3 Preparation for Shipment

8.3.1 (RMHF PIC): Prior to off-site shipment of any package from the RMHF, review RTS data for Holds and missing information, (all “S” series numbers are on Hold). Request QA to inspect package, and complete all actions required for removal of the Hold. (A new procedure, DWP or EWR may have to be prepared depending on the task required to remove the Hold.) Upon resolution of the Hold, request QA to attach a TID or Inspection Tag to the package, and clear the hold from the RTS.

Note: A package may be transferred to another on-site SSFL facility under HOLD status for processing (i.e., to correct the HOLD status). The RTS will be updated to reflect the transfer. When the package is returned to the RMHF, the package will enter the sequence of this procedure at step 8.1.1.

8.3.2 (RMHF PIC): In preparation for a shipment, select the Sealed packages, stage and follow appropriate shipping procedures as follows:

Radioactive waste destined to DOE-Hanford, NTS, or Envirocare Sites..... **EID-04482**
Radioactive waste destined to other sites..... New procedure required
Radioactive Material **EID-04493**

8.3.3 (RMHF PIC): Enter shipping information in RTS, and place shipment documentation into the RMHF records file and the T038 Central file (as required by the applicable shipping document).

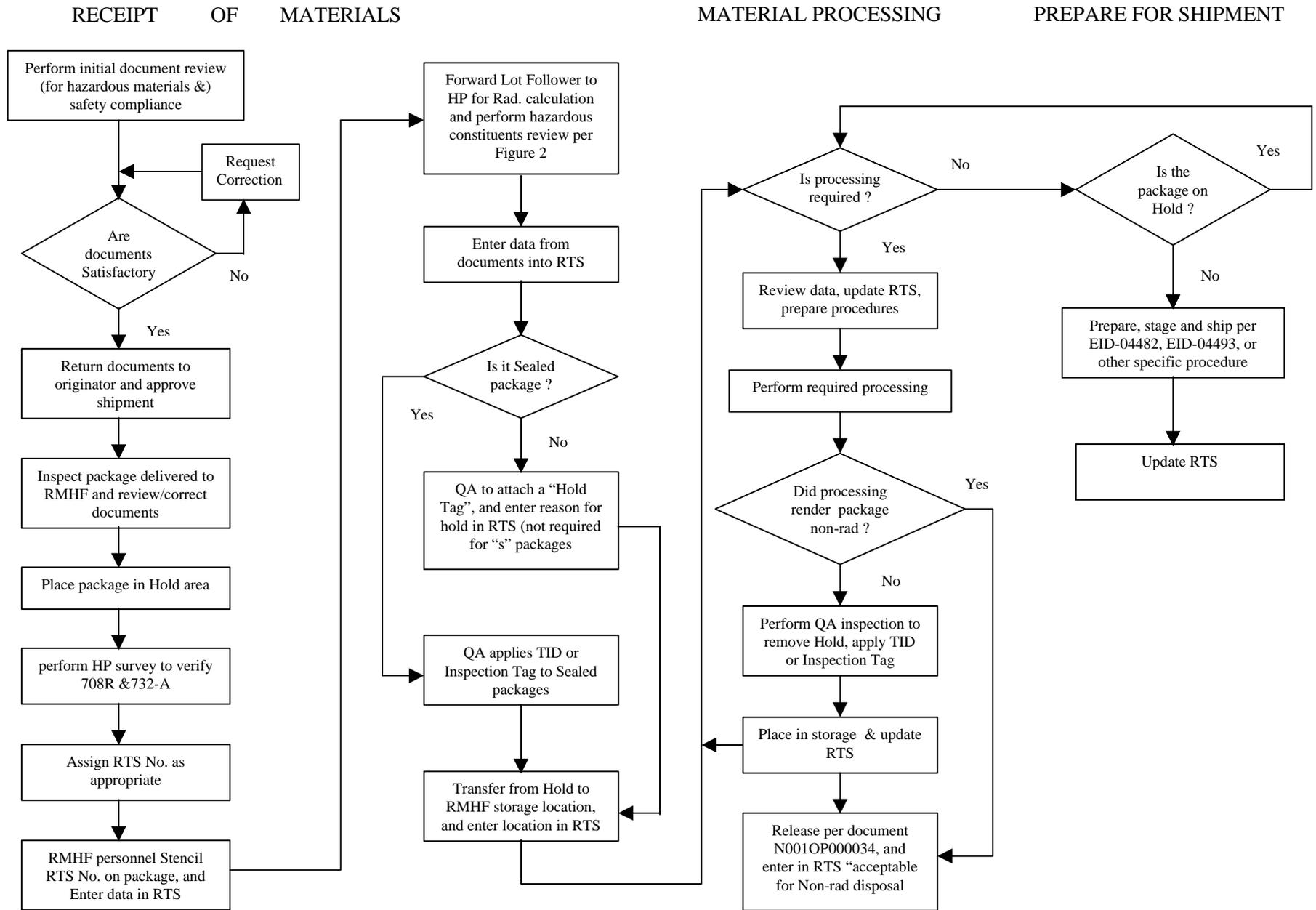


Figure 1: Process Flow diagram for radioactive Material Handling at the RMHF

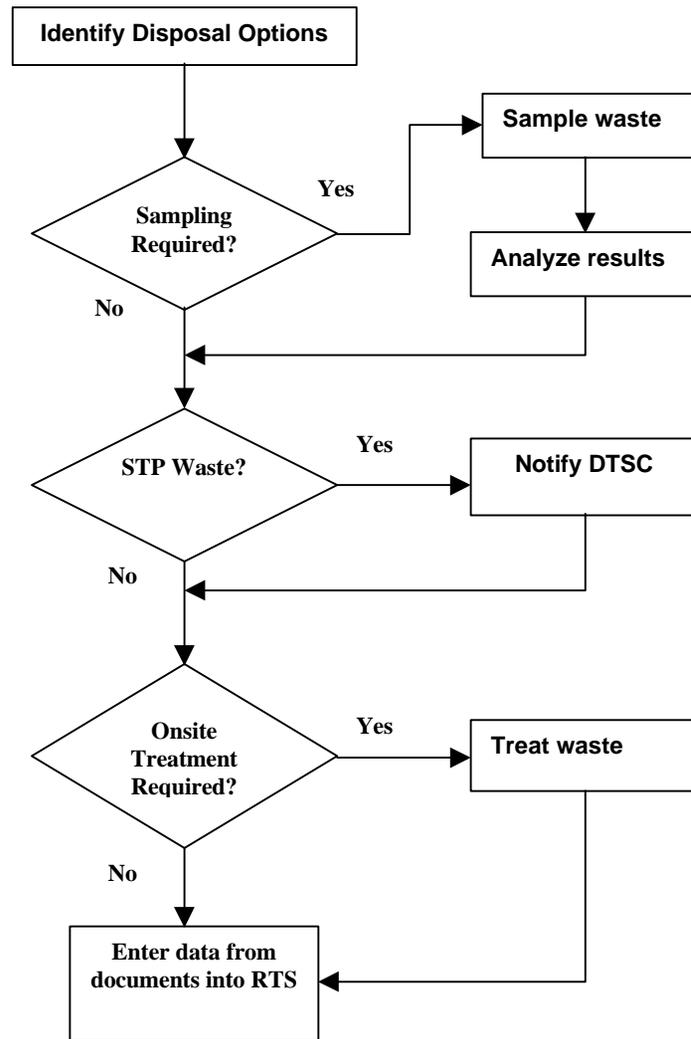


Figure 2: Process Flow diagram for Hazardous Constituents Review