

West Valley Demonstration Project

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REMOTE-HANDLED WASTE FACILITY (RHWF) INTEGRATED RUN PLAN

Cognizant Author: A. A. Ramadhan

Cognizant Manager: K. J. Slomba



CH2MHILL • B&W West Valley, LLC
10282 Rock Springs Road
West Valley, New York USA 14171-9799

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REMOTE-HANDLED WASTE FACILITY (RHWF) INTEGRATED RUN PLAN

1.0 SCOPE

This integrated run plan (IRP) governs the operation of the RHWF and its systems for processing waste in order to produce waste containers that meet the WVDP on-site waste acceptance criteria. This run plan does not apply to the processing of contact-handled waste in the Buffer Cell. Contact-handled waste processing in the Buffer Cell will be covered by other approved work documents.

This IRP provides applicable administrative requirements, operating logic, the sequence of operation, waste stream identification, processing parameters, and sampling and analysis information.

2.0 REQUIREMENTS & REFERENCES

2.1 Requirements

- 2.1.1 EP-14-001, "Preparation of Integrated Run Plans"
- 2.1.2 WVDP-011, "WVDP Industrial Hygiene and Safety Manual"
- 2.1.3 WVDP-010, "WVDP Radiological Controls Manual"
- 2.1.4 DOE Order 5480.20A, "Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities"
- 2.1.5 SOP 00-52, "Conduct of Operations"

2.2 References

- 2.2.1 WVDP-332, "Engineering and Work Instruction Standards"
- 2.2.2 WVDP-370, "WVDP Radioactive Waste Acceptance Program"
- 2.2.3 RHWF Radiological Posting Plan, detailed in Memo EC 2004:0001 dated Jan. 6, 2004 as revised by Modification to Radiological Posting Plan, Memo EC 2004:0004 dated Feb. 24, 2004.
- 2.2.4 RC-RPO-108, "RHWF Shield Verification Survey"
- 2.2.5 SOP 300-07, "Waste Generation, Packaging and On-Site Transportation"
- 2.2.6 SOP 300-35, "RH-TRU Waste Repackaging Requirements"

3.0 DEFINITIONS & ACRONYMS (Standard Definitions And Acronyms Are Contained In Ref. 2.2.1)

3.1 Definitions

- 3.1.1 RCRA DETERMINATION - Hazardous waste constituents have been identified and/or quantified.
- 3.1.2 RADIOLOGICAL CLASSIFICATION - Waste Radionuclides have been identified and/or quantified.
- 3.1.3 WASTE ACCEPTANCE CRITERIA (WAC) - Documented requirements established which define those physical, radiological, and chemical characteristics of a waste that must be met in order for a waste to be safely moved into a facility or storage location.
- 3.1.4 WASTE GENERATOR - For all approved waste streams, RHWF Operations becomes the "Generator" of record for Waste Management procedures when processing waste into new packaging.

3.2 Acronyms

CCTV - Closed Circuit Television

DDWO - D&D/Waste Management Operations

DQO - Data Quality Objectives

NTS WAC - Nevada Test Site Waste Acceptance Criteria

ON-SITE WAC - WVDP Waste Acceptance Criteria

PSO - Plant Systems Operations

RCRA - Resource Conservation and Recovery Act

RHWF - Remote-Handled Waste Facility

SAP - Sampling and Analysis Plan

SWAP - Summary Waste Acceptance Package

WAC - Waste Acceptance Criteria

WIPP WAC - Waste Isolation Pilot Project Waste Acceptance Criteria

WPD - Waste Planning and Disposition

4.0 RESPONSIBILITIES (Standard Responsibilities Are Contained In Ref. 2.2.1)

4.1 The overall responsibility for operations of the Remote Handled Waste Facility (RHWF) rests with Waste Operations. The Waste Operations and Compliance Manager is responsible for the safe conduct, operational compliance and ensuring waste generated meets the necessary waste acceptance criteria and ensures each Waste Stream is approved and appears on Attachment C.

Coordination and support from various groups in this Organization and outside this organization is expected. The following support listed in Section 4.2 is anticipated:

4.2 RHWF Operations

4.2.1 DDWO

- A. Operates the RHWF in accordance with approved procedures to process waste containers.
- B. Provides qualified personnel in support of RHWF Processing Operations.
- C. Waste Facility and Logistics Operations delivers waste containers to the facility for processing to RHWF Operations.
- D. Waste Facility and Logistics Operations receives processed waste containers for on-site storage from RHWF Operations.
- E. Along with RHWF Supervisor (RHWFs) becomes the generator of record for all waste processed at the RHWF.

4.2.2 PSO

- A. Maintains and operates the RHWF Utilities, HVAC and Waste Collection and Transfer Systems.
- B. Performs rounds.

4.3 RHWF Engineering

4.3.1 Engineering/System Management

- A. Perform evaluations to assure equipment and systems are functioning properly.
- B. Provides necessary documents, document revisions, and other technical support to operations.

4.4 Radiological Controls

- 4.4.1 Performs facility radiation surveys.
- 4.4.2 Supports DDWO/PSO with waste operations.

4.5 Waste Planning and Disposition (Including Waste Generator Services)

- 4.5.1 Evaluate existing waste stream data and determine if additional sampling/analysis is required
- 4.5.2 Develop/Revise SAP's and or DQO's per WV-922 and WV-902 as necessary
- 4.5.3 Direct DDWO/RC for obtaining dose rates and smears of waste being processed as necessary
- 4.5.4 Determine preliminary waste classification/characterization for in-process waste streams per WV-210
- 4.5.5 Assist with the waste process planning and decision making per SOP 313-12
- 4.5.6 Provide general waste packaging and on-site transportation assistance of completed waste containers per SOP 300-07
- 4.5.7 Provide sufficient field service to quickly respond to questions involving waste classification and packaging issues
- 4.5.8 Provides guidance for disposition of non-conforming wastes.
- 4.5.9 Provides fissile material calculations.
- 4.5.10 Provides final waste characterization Per WV-230 and WV-250
- 4.5.11 Provides input to the planning of sampling activities, sample handling, and sample transport to the laboratories.

5.0 OPERATING SUMMARY

Paragraph 6.3 contains the authorization approvals required for the initial startup of radioactive operations.

Attachment A contains a listing and brief description of the SOPs to be used for RHWF Operations.

Attachment B contains a summary of the in-process sampling and analytical information.

Waste containers as identified in Attachment C are delivered to the RHWF Receiving Area. The containers are then transferred to the Buffer Cell using the overhead bridge crane and/or a fork truck. The containers are transferred to the Work Cell using the powered roller system.

Waste container processing is generally performed in the Work Cell. Processing within the Work Cell includes container opening, visual inspection, sampling, dewatering, waste segregation and size reduction, nondestructive assay, and packaging. Waste items that are ready for repackaging will be placed in either drum liners, box liners or other containers. Full liners will be removed from the Work Cell and packaged in 55-gallon TRU drums or B-25 boxes. Drums and B-25 boxes are removed through the Waste Packaging Area, surveyed for release in the Survey & Spot Decontamination Area, and removed from the RHWF through the Load-Out Truck Bay. Waste that meets or exceeds 1.0 PE-Ci cannot be packaged using the Waste Packaging Area. An alternate path for removing items from the RHWF is available when the waste is packaged in the Work Cell and transferred back out through the Buffer Cell and Receiving Area. Use of this removal path must be approved on a per use basis.

The waste streams identified for processing in the RHWF are listed in Attachment C. Other waste streams may be processed through the RHWF after they have been evaluated in accordance with the requirements of 10 CFR 830, Subpart B, "Safety Basis Requirements," and WV-914, "Unreviewed Safety Question Process."

Attachment D contains the basic processing logic in the RHWF. SOPs, as identified in Attachment A, provide specific authorized operational actions for work in the RHWF.

Attachment E contains a brief description of the purpose of each of the main processing areas in the facility.

Attachment G (WV-3532) contains the Post Outage Prerequisite Checklist which is required to be completed prior to the start of waste processing following an outage.

Attachment H (WV-3502) contains Run Plan Exception (RPE) instructions and forms.

Attachment J contains a description of Shield Verification Survey requirements.

Attachment K (WV-3533) contains the Substream Prerequisite Checklist required to be completed prior to the start of processing for each waste substream.

6.0 PREPARATION ACTIONS

6.1 Administrative

- 6.1.1 SWAPs: The SWAP for each waste stream (if available) will be reviewed along with other historical information prior to the start of processing to determine preliminary characterization and processing requirements. SWAPs for new waste streams added through the USQP process will be prepared if required by the Waste Facilities and Logistics Manager (FLM).
- 6.1.2 Data Quality Objectives (DQOs): DQOs are prepared as required to support the in-process sampling and analytical requirements as discussed in Attachment B.
- 6.1.3 Container Data Packages (CDP): A Container Data Package will be completed for each drum liner, box liner, or other container as it is filled with waste. Available supporting documentation and data will be included in the Container Data Package as appropriate.
- 6.1.4 Records: Records are collected in accordance with SOPs and this procedure during waste stream processing. These records provide supporting documentation and data for meeting the on-site waste acceptance criteria for newly generated waste containers.
- 6.1.5 Log Books: Log books shall be used to document events, complications, issues, etc. in accordance with SOP 00-52, "Conduct of Operations."

6.2 Material/Special Tools and Equipment

Details of the material/special tools and equipment are included in the Standard Operating Procedures (SOPs) described in Attachment A.

6.3 Initial Startup Plan and Waste Cycle Prerequisites

(Step 6.3.1 must be completed prior to commencing any other work identified in this section. Steps 6.3.2 through 6.3.6 may be performed in any sequence that is appropriate.)

- [+] 6.3.1 The Department of Energy has provided authorization to proceed with radioactive RHWF operations via DOE letter OH-0354-04 (DW:2004:0218), dated 6/3/2004.
(FM) W. L. Zuppinger (Signature in Record Copy) 6/4/2004
(sign/print) (date)
- [+] 6.3.2 The liquid radwaste transfer line spool piece has been satisfactorily installed and tested via WVNS CO Work Instruction Package RHWF-102931.
(FM) W. L. Zuppinger (Signature in Record Copy) 6/10/2004
(sign/print) (date)
- [+] 6.3.3 All "cold testing" debris is removed from the Work Cell.
(FM) W. L. Zuppinger (Signature in Record Copy) 6/10/2004
(sign/print) (date)
- [+] 6.3.4 Radiological postings are in place per RHWF Radiological Posting Plan, detailed in Memo EC 2004:0001 dated Jan. 6, 2004 as revised by Modification to Radiological Posting Plan, Memo EC 2004:0004 dated Feb. 24, 2004.
(FM) W. L. Zuppinger (Signature in Record Copy) 6/14/2004
(sign/print) (date)
- [+] 6.3.5 Shield Verification Baseline Survey is completed per RHWF RC-RPO-108, Shield Verification Survey.
(FM) W. L. Zuppinger (Signature in Record Copy) 6/9/2004
(sign/print) (date)
- [+] 6.3.6 Post Outage Prerequisite Checklist: This checklist must be completed prior to the start of waste processing in the RHWF following each outage. See Attachment G (WV-3532) for the Post Outage Prerequisite Checklist.

- [+] 6.3.7 Upon completion of steps 6.3.1 through 6.3.6 above, Waste Disposition Project Manager will review completion status of RHWF open items.
(WDP Manager) S. A. MacVean (Signature in Record Copy) 6/15/2004
(sign/print) (date)
- [+] 6.3.8 Upon completion of step 6.3.7, authorization is granted to commence RHWF processing operations.
(WDP Manager) S. A. MacVean (Signature in Record Copy) 6/15/2004
(sign/print) (date)
- 6.3.9 During the initiation of hot operations, processing will be conducted in a controlled, deliberate manner. Additional controls will be in place and will include the following:
- A. The RHW Facility Manager will provide oversight when the first hot container is processed in the RHWF.
- [+] B. Additional personnel will be available to support the opening and processing of the first container in order to periodically monitor Continuous Air Monitors (CAMs), Area Radiation Monitors (ARMs), and Stack Monitors operation and to monitor ventilation flow through the facility.
Additional Personnel in place.
W. L. Zuppinger (Signature in Record Copy) 6/15/2004
Facility Manager sign date
- C. Activity Control Log daily smears will be taken in areas where contamination may first be expected to appear in the event of an upset.
- D. Radiological Protection Operations personnel will be present the first time a box liner is transferred from the Work Cell to the Waste Packaging Area. A survey will be performed in the Waste Packaging Area after box removal.
- [+] E. Smears will be taken of the glove boxes, transfer drawer and fume hood during first use.
Smears completed.
R. B. Black (Signature in Record Copy) 6/21/2004
Radiological Protection Operations Supervisor sign/date
- F. Prior to going hot in the Work Cell, the Contact Maintenance Area (CMA) and the Buffer Cell (BC) will be posted as Contamination Areas. Entries to the CMA and Buffer Cell after going hot will be per WVDP-010, WVNS Radiological Controls Manual.
- G. Control of the Receiving Area when receiving a container and the Load-out Truck Bay when removing a container will be per WVDP-010, WVNS Radiological Controls Manual.
- H. Shield Verification Surveys will be conducted as described in Attachment J, Special Radiological Controls.

[+]

- I. At the completion of the processing of the first container of radioactive waste (or earlier if directed by the facility manager), operations will be placed on hold to allow management to conduct an evaluation of procedures, operator proficiency and equipment operability.

First container post operations brief conducted.

W. L. Zuppinger (Signature in Record Copy)
Facility Manager sign/date

6/22/2004

7.0 PROCEDURE/SEQUENCE

- 7.1 SOP 300-07, "Waste Generation, Packaging and On-Site Transportation," Appendix B, *Waste Stream Planning Worksheet*, is required to be completed for each planned waste stream to be processed in the Remote Handled Waste Facility.
- 7.2 SOP 313-12, "RHWF Waste Process Planning and Process Decision Making," Attachment A, *RHWF Processing Plan*, documents the container processing sequence for each waste substream. A substream briefing is conducted.
- 7.3 An ALARA evaluation is conducted as part of the waste substream planning process. If one or more ALARA trigger levels are expected to be exceeded, paperwork and briefings will be completed. An ALARA pre-job briefing is held when required.
- 7.4 Startup from an outage requires the completion of Remote-Handled Waste Facility Integrated Run Plan (WVNS-IRP-006) Attachment G, *Post Outage Prerequisite Checklist (WV-3532)*.
- 7.5 Start of processing for each waste substream requires the completion of Remote-Handled Waste Facility Integrated Run Plan (WVNS-IRP-006) Attachment K, *Substream Prerequisite Checklist (WV-3533)*.
- 7.6 SOP 300-07, "Waste Generation, Packaging and On-Site Transportation," is used to deliver a container to the Receiving Area to start the process.
- 7.7 SOP 313-07, "RHWF Powered Roller System Operations," is used to move the container into the Work Cell.
- 7.8 The container is opened per SOP 313-14, "RHWF Waste Sorting," if the container is opened in the Work Cell or SOP 313-07 if the container is opened in the Buffer Cell.
- 7.9 Container contents are inspected in accordance with SOP 313-14, "RHWF Waste Sorting."
- 7.10 Initial dose rate data may be taken per WPD instructions.
- 7.11 WPD provides assistance for developing instructions to operations for the processing of the container on SOP 313-12, Attachment B, *RHWF Processing Plan Instructions and Documentation*, using all available data including dose rate and SWAP (if available), information from the container data file, and visual. The *RHWF Processing Plan Instructions and Documentation* should include details on sampling, size reduction and decontamination recommendations, and an evaluation of the potential waste classification of waste in the container. If needed to provide documentation for waste characterization and packaging determinations the WPD may complete WV-3837, Attachment C of SOP 313-12 *RHWF Waste Characterization and Packaging Documentation*.
- 7.12 A Container Data Package is started for each container.
- 7.13 Liners are loaded into the Work Cell per SOPs 313-14 and 313-09 or SOP 313-07.
- 7.14 Sampling is performed as specified by WPD on Attachment B of SOP 313-12.
 - 7.14.1 Samples are removed from the Work Cell using SOP 313-10, "Sample System Operations," or using SOP 313-07.

- 7.14.2 A *Chain of Custody/Request for Analysis Form* WV-2865 is completed and taken to the Sample Storage and Packaging Facility in accordance with SOP 300-24 with the sample. Sample results, when available, shall be sent to WPD to be placed into the Container's Characterization File
- 7.15 The waste is sorted and size reduced per SOP 313-14 and the instructions on the SOP 313-12, Attachment B, *RHWF Processing Plan Instructions and Documentation*.
- 7.16 LLW and MLLW are packaged in accordance with SOP 313-14. TRU waste is packaged in accordance with the requirements of SOP 313-14 and SOP 300-35.
 - 7.16.1 WV-3825, *RHWF Non-TRU Waste Liner Data Sheet*; or WV-3829, *RH-TRU Waste Container Repackaging Form*; are completed to provide documentation of waste placed into the liner or container.
 - 7.16.2 WV-3827, *RHWF TRU Waste Drum Data Sheet*, is completed in lieu of WV-3829 for waste packaged directly into the WPS.
 - 7.16.3 For TRU Waste, a video recording (with audio) will be made during filling of each container. The video recording becomes part of the CDP.
 - 7.16.4 All Waste Data Sheets must be included with the Container Data Package for each container.
- 7.17 When full, liners are packaged into boxes or drums per SOP 313-09, "Waste Packaging Operations," or SOP 313-14 and SOP 313-07.
- 7.18 Each box or drum is surveyed and WV-4438, *Radioactive Waste Package Data Sheet* (SOP 300-07, Appendix D), WV-3829, and a Rad Waste Packaging Tag are completed.
- 7.19 The original WV-4438 and WV-3829 should be placed into the Container Data Package for the container. The Container Data Package will be turned over to WPD to be retained in the corresponding Waste Container File.
- 7.20 An ALARA post-job briefing is conducted for the waste substream as required.

8.0 CHANGE CONTROL

Unusual or unplanned occurrences that require immediate, temporary modifications to the IRP may be made using a Run Plan Exception (RPE). Instructions for RPE use, approval, and documentation are contained in Appendix H.

9.0 RECORDS

- 9.1 The following forms, data sheets, logs, reports, or any other form of documentation are considered records and when created are to be prepared, maintained, and transferred to Records in accordance with WVDP-262 and WVDP-529. Refer to the CHBWW Master File Plan for further information.
 - 9.1.1 WV-3532, Attachment G - *Post Outage Prerequisite Checklists*, as they are completed.
 - 9.1.2 WV-3502, Attachment H - *Run Plan Exceptions and RPE Logs*, as they are completed.
 - 9.1.3 The Container Data Package for each container filled will be turned over to WPD along with the packaged box or drum.
 - 9.1.4 WV-3533, Attachment K - *Substream Prerequisite Checklists*, as they are completed.

10.0 ATTACHMENTS

- ATTACHMENT A - SOPs for RHWF Operations
- ATTACHMENT B - In-Process Sampling and Analytical Information
- ATTACHMENT C - RHWF Waste Stream Container Identification
- ATTACHMENT D - RHWF Process Flow
- ATTACHMENT E - RHWF Processing Areas
- ATTACHMENT F - DELETED
- ATTACHMENT G - Post Outage Prerequisite Checklist (WV-3532)
- ATTACHMENT H - Run Plan Exception (RPE) (WV-3502)
- ATTACHMENT I - DELETED
- ATTACHMENT J - Special Radiological Controls
- ATTACHMENT K - Substream Prerequisite Checklist (WV-3533)

ATTACHMENT A
SOPs for RHWF Operations
(Page 1 of 4)

SOP 313-01 RHWF Utilities

This procedure provides instructions for operating the following utilities associated with RHWF Operations: Compressed Air, Instrument Air, Demineralized Water, and the Electrical Distribution System.

SOP 313-02 RHWF Crane Operations

This procedure provides instructions for operation of the cranes and Powered Dexterous Manipulators (PDM) for the RHWF. It governs the operations and routine inspections of the following: the Work Cell (30T) Bridge Crane 313-W-001, the Receiving Area (20T) Bridge Crane 313-W-002, the Work Cell North Manipulator Trolley PDM 313-W-016A and the Work Cell South Manipulator Trolley PDM 313-W-016B, the Jib Crane 313-W-004 with Work Cell Jib Crane PDM 313-W-017, the Contact Maintenance Area (5T) Bridge Crane 313-W-005, and the 3Ton Monorail Hoist 313-W-006.

SOP 313-03 RHWF Shield Door Operations

This procedure governs the operation of the RHWF shield doors:

Receiving Area (RA) to Buffer Cell (BC) shield door [313-M-001A (east leaf) and 313-M-001B (west leaf)],
Receiving Area to Buffer Cell swinging door [313-M-004B],
Receiving Area to Buffer Cell air control door [313-XX-063],

Buffer Cell to Work Cell (WC) shield door [313-M-005A (east leaf) and 313-M-005B (west leaf)],
Buffer Cell to Work Cell swinging door [313-M-004A],
Buffer Cell to Work Cell air control door [313-XX-064],

Work Cell to Contact Maintenance Area (CMA) shield door [313-M-002],
Work Cell to Contact Maintenance Area air control door [313-XX-065].

SOP 313-04 RHWF Ventilation System Operations

This procedure provides operating instructions for the RHWF Ventilation System. Activities controlled by this procedure include the steps necessary for the startup, sequencing, manipulation, and shutdown of the Main Supply Air Conditioning System, Receiving Area Ventilation System, Load-Out Truck Bay Ventilation System, Office Area Air Conditioning System, Contact Maintenance Area Cooling System, Ventilation Support Fans, and the Contaminated Area Air Cleaning Exhaust System to maintain temperature within the selected areas, maintain designed negative pressures within the potentially contaminated areas, and prevent environmental releases.

SOP 313-05 RHWF Decontamination System Operations

This procedure provides instructions for operation of the Decontamination System for decontamination of the following:

Work Cell cranes
Work Cell, Buffer Cell, Waste Packaging Area (WPA), and Contact Maintenance Area (CMA) walls, floors,
and work surfaces
Waste components
Boxes, drums, or liners
Master Slave Manipulator

ATTACHMENT A
SOPs for RHWF Operations
(Page 2 of 4)

SOP 313-06 RHWF Waste Water Collection and Transfer System Operations

The purpose of this operating procedure is to provide the requirements and operating instructions for use of the RHWF Waste Water Collection and Transfer System. The activities governed by this procedure include those steps necessary to safely identify, contain, pretreat, sample, and transfer RHWF waste water effluents out of the RHWF.

SOP 313-07 RHWF Powered Roller System Operations

This procedure includes instructions for operation of the Powered Roller Systems (PRS) that are used to move waste containers and other material/equipment to and from the Buffer Cell and the Work Cell of the RHWF. It also includes instructions for preparing and moving waste containers into the Work Cell using the PRS.

SOP 313-09 RHWF Waste Packaging Operations

This procedure covers the activities performed within the Waste Packaging Area (WPA) and provides operating instructions for the equipment used in the performance of these activities. Activities covered are:

- placing empty drum/box liners into the Work Cell
- PE-Ci tracking if required
- loading filled drum/box liners into drums/boxes
- installing drum/box lids including installing caps on shielded overpacks
- transferring drums/boxes to the Survey and Spot Decontamination Area
- obtaining/transferring smears of drums/boxes and deconning, if required
- transferring drums/boxes into the Load Out/Truck Bay
- transferring empty drums/overpacks/boxes into and out of the drum/box enclosure
- making a manned entry into the Waste Packaging System Enclosure.

The performance of these activities includes the operation of the following equipment:

- Drum and Box Transfer Ports and Shield Covers
- Drum and Box Transfer Carts and Lifting Tables
- Box Turntable
- Drum and Box Shield Doors
- Drum and Box Electromagnetic Packs
- Drum and Box Telescoping Reach Rods
- Nut driver

SOP 313-10 RHWF Sample System Operations

This procedure provides instructions for operation of the Sample System in the Remote-Handled Waste Facility.

This procedure covers the following:

Use of the Master Slave Manipulators (MSM), Work Cell Shielded Sample Transfer Drawer 313-XX-044, Op Aisle Glove Box 313-XX-047, Sample Room Fume Hood 313-XX-067 and transfer can for removal of samples and smears from the work cell for analysis, and for the loading in of tools, sample bottles, or smears into the Work Cell.

ATTACHMENT A
SOPs for RHWF Operations
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SOP 313-11 RHWF Programmable Logic Controller System Operation

This procedure governs the operation of the RHWF Programmable Logic Controller (PLC) System. It provides instructions for log-in, log-out, reboot, trending, and manipulation of the system functions, however it does not provide direction for controlling equipment operated by the PLC System. Operation of facility equipment controlled by the PLC System Operator Terminals (OTs) must be performed in accordance with the appropriate procedures and guidelines for those systems.

SOP 313-12 RHWF Waste Process Planning and Process Decision Making

This procedure is to provide planning instructions for; waste processing and to provide a method to document and communicate processing decisions. These plans are communicated and documented to DDWO and support personnel through this procedure.

RHWF process decisions are intended to provide guidance to operations personnel for processing of specific wastes. Process decisions are based on available data outlined in the Integrated Run Plan (IRP-006), Summary Waste Acceptance Package (SWAP), (if available), container data file, visual inspection, radiological measurement (smear data/exposure rate/gamma spectrometry) and generally without sample analytical results. Therefore, these decisions are an evaluated estimate used to segregate and package waste. Subsequent sampling results and characterization by WPD will be used to validate the process decisions made and the subsequent size reduction, sorting, segregation, and packaging performed in the RHWF. The goal is to properly package waste in its final characterized form for shipping. However, any post-RHWF containers that cannot be validated by WPD will be re-processed (e.g. TRU waste in a LLW waste container.)

SOP 313-13 RHWF CCTV System Operation

To provide instructions for operating the process cameras in the Remote Handling Waste Facility (RHWF), the Digital Video Recorder (DVR), and the DVD Recorder (DVDR).

SOP 313-14 RHWF Waste Sorting

This procedure provides instructions for performing all waste sorting and packaging operations in the Work Cell. The following activities are covered:

- Visual Examination of the container contents
- Segregation of container contents by waste type
- Dewatering and/or vacuuming of containers, if needed
- Size Reduction of waste, if needed
- Radiological surveys and sampling of container contents
- Video Recording (with audio) of the packaging of potential TRU waste

ATTACHMENT A
SOPs for RHWF Operations
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SOP 313-15 RHWF Lead Shielding Tracking & Reconfiguration

To provide instructions for reusing lead (at the RHWF ONLY) that was used originally and exclusively as shielding in existing waste containers. The following activities are prescribed in this procedure:

- Identifying and tracking lead shielding removed from existing containers.
- Staging lead shielding removed from existing containers for reuse as shielding in new container liners.
- Reconfiguring lead, as needed, for reuse as shielding in new container liners.
- Installing lead shielding in new container liners.

Due to the fact that handling of lead will be performed remotely, there are no hazards expected to personnel while performing any of the action steps in this procedure.

SOP 313-18 RHWF Alarms and Alarm Responses

This procedure defines how alarms are categorized, how they will be handled at the operator console, and provides assistance to the operator by furnishing information for the identification, possible causes and operator actions for initial response to individual alarms.

ATTACHMENT B
In-Process Sampling and Analytical Information
(Page 1 of 1)

I. SOLID WASTE SAMPLING

Most sampling activities will be performed in the Work Cell. Work Cell sampling is performed per WPD direction on Attachment B of SOP 313-12. In general, sample analysis will not be used for waste segregation but will be used at a later date for final characterization and packaging validation. See SOP 300-08, "Container Sampling," and SOP 313-10, "RHWF Sample System Operations," for sample packaging and transfer instructions.

Analyses required for waste characterization include radionuclide distribution(s), which are used in determining final radiological classification. Sampling and analysis will be used to validate that the package meets the On-Site WAC for on-site storage per WVDP-370, "Radioactive Waste Acceptance Program." The SWAP (if available) and the DQO for each waste stream/substream identify RCRA and Radiological sampling requirements, if any. The sampling data will also be used to validate that the proper packaging requirements and applicable RCRA requirements have been met. RCRA inspection for non-conforming items is contained in SOP 313-14.

Numbers and types of samples will be based upon established radiological distributions, process knowledge, or by in-cell survey data. Use of Acceptable Knowledge (AK) and in-cell NDA instrumentation is designed to streamline the overall sampling strategy.

After packaging, a final surface smear sample will be performed on waste containers in the Survey and Spot Decon Area and counted by Radiation Safety prior to releasing the waste container from the facility. See SOP 313-09, "RHWF Waste Packaging Operations."

II. STACK SAMPLING

The HVAC exhaust stack is equipped with a sampling system to measure the concentration of radioactive materials in the exhaust. Sampling is required to monitor the effectiveness of the particulate removal system and for annual reporting purposes. See EMP-300, "Routine WVDP Stack Air Effluent Monitoring and Sampling."

ATTACHMENT C
RHWF Waste Stream Container Identification

(Page 1 of 5)

NOTE1 *The following processing sequence is not mandatory. The sequence may be modified as deemed necessary.*

NOTE2 *The Container ID numbers listed are the original containers. The actual container taken to the RHWF for processing may have a different ID number if the waste has been repackaged in another facility (e.g., size reduction performed in the Vit Cell, then the waste transferred to RHWF for packaging).*

WS-SS	Preliminary Description	QTY	Container ID Numbers	Special Info
22-1,2,3,4	Shielded Drums (FRS, RER, ADA, WTF)	22	6052, 6295, 6863, 7341, 7382, 7395, 7475, 9635, 9995, 6840, 6063, 7369, 6135, 6177, 6301, 7398, 11567, 6195, 6269, TD-751-B, TD-894, TD-829	
20-1,2,3,4,5	Shielded Boxes (WTF, ADA, FRS, NDA, EDR)	12	12-1031, 12-1156, 12-1248, 12-1725, 12-2374, 12-246, 12-312, 12-316, 12-412, 12-767, OP-004, SP-044	12-312 contains 4609. 12-316 contains 317 and 251.
17-1	One container from the VEC Ventilation Substream	1	12-336	
20-1	WTF Shielded Boxes	2	12-2357, TC-053	
20-2	ADA Shielded Boxes	2	12-342, 12-697	12-342 contains 4611 and 4596. 12-697 contains 5108 and 5126.
20-3	FRS Shielded Boxes	11	12-442, 12-695, OP-535 ¹ , SOP-481, TC-211, TC-212, TC-213, TC-254, X-8710, X-9172, X-8727	Box 12-442 holds Containers 3062 and 3259. Box 12-695 holds containers 3961 and 3254. Container SOP-481 contains drum 15282.
20-4	NDA Waste	1	SR-043	
20-5	EDR Shielded Boxes	2	12-324, 12-321	12-324 contains 3116, 3375, 4161, and 4191. 12-321 contains 3353 and 3382.
20-6	CPC Debris Shielded Boxes	5	TC-163, TC-164, TC-165, TC-166, TC-176	
22-1	Shielded Drums (FRS)	9	SHLD-040, SHLD-048, SHLD-051, SHLD-052, SHLD-054, SHLD-056, SHLD-057, SHLD-059, SHLD-063	
22-3	ADA Shielded Drums	1	TD-1044	
24-1	Head End Cell Closure Waste	19	SP-099, SP-128, SP-130, SP-131, TC-201, TC-299, TC-312, TC-314, TC-317, TC-334, TC-345, TC-347, TC-374, TC-384, TC-391, TC-392, TC-467, TC-476, 080005	

¹ 12-781 and 12-794, containers originally listed as part of Waste Stream 20-3, were sorted in the CSPF in October 2003. Items such as herculite, wood, cardboard and a punctured Windex can were removed and placed into 12-3121. Drums 1223 and 6396 (from 12-781) were repackaged in 12-781-B and drum 6176 (from 12-794) was repackaged in 12-786-B. In March 2006, drums 1223, 6396, and 6176 were removed from the above listed containers, renumbered with "-B" suffix, placed in a box liner and then placed into OP-535. No new waste will be processed in the RHWF as a result of this repackaging.

ATTACHMENT C
RHWF Waste Stream Container Identification
 (Page 2 of 5)

WS-SS	Preliminary Description	QTY	Container ID Numbers	Special Info
12/13-1	CPC Jumper Boxes	13	J1, J2, J3, J4, J5, J6, J7, J8, J9, J10, J11, J12, 3E-1/7E-5/7E-8	
16-1	CPC Vessel Boxes	6	3D-1, 3E-2/3E-3, 7C-1, 7C-2, 7C-4, 7D-10	
21-1	Shield Boxes - Resins	10	SP-054, SP-055, SP-056, SP-057, SP-058, SP-059, SP-060, SP-061, SP-062, SP-063	
19-1	PPC Shield Boxes	2	SP-022, SR-038	
19-2	XC3/XCR Shield Boxes	4	SR-033, SR-035, SR-039, SR-042	
19-3	WMOA Shield Boxes	1	SR-050	
19-4	A&PC Shield Boxes	4	SR-034, SR-036, SR-037, SR-041	
19-5	EDR Shield Boxes	1	SR-051	
15-1	CPC Vessel Boxes	1	7D4	
23-1	WTF Pumps & Mechanical Arms	5	SP-144 (Vault 001), SP-138 (Vault 002), TC-118, SP-098, SP-108	Mobilization pumps, transfer pump
17-1	VEC Vent Filter Boxes	33	12-328, 12-329, 12-330, 12-331, 12-332, 12-337, 12-339, 12-341, TC-001, TC-036, TC-042, TC-043, TC-045, TC-073, TC-076, TC-086, TC-091, TC-117, TC-132, TC-134, TC-137, TC-139, TC-140, TC-141, TC-148, TC-152, TC-153, TC-154, TC-155, TC-156, TC-157, TC-158, TC-159	
17-2	HEV Vent Filter Boxes	24	12-1513, 12-1514, 12-296, 12-318, 12-377, 12-378, 12-444, 12-452, 12-485, 12-486, TC-114, TC-115, TC-119, TC-126, TC-127, TC-128, TC-129, TC-130, TC-131, TC-216, TC-218, TC-219, TC-220, TC-229	
17-3	WTF Vent Filter Boxes	10	12-964, 12-972, TC-033, TC-125, TC-171, TC-180, TC-181, TC-182, TC-183, TC-187	
17-4	Product Packaging and Handling Area Vent Filter Boxes	1	TC-143	
17-5	Vessel Off-Gas Vent Filter Boxes	4	TC-146, TC-167, TC-170, TC-469	
17-6	01-14 Building Vent Filter Boxes	2	TC-189, TC-190	

ATTACHMENT C
RHWF Waste Stream Container Identification
 (Page 3 of 5)

WS-SS	Preliminary Description	QTY	Container ID Numbers	Special Info
17-7	Portable Units Vent Filter Boxes	5	SP-024, TC-046, TC-059, TC-072, TC-078	
17-8	Alpha/ESL Lab Vent Filter Boxes	3	TC-058, TC-079, TC-090	
18-1	Grouted Vent Filter Boxes	4	SP-068, SP-069, SP-070, SP-071	
14-1	CPC Dissolver Vessel Boxes	2	3C1, 3C2	
25	Vitrification Dismantlement Shielded Boxes and Drums	86	16152, OP-445, SHLD-047-B, SP-201, TC-298, TC-308, TC-310, TC-313, TC-315, TC-318, TC-320, TC-321, TC-322, TC-330, TC-331, TC-333, TC-335, TC-336, TC-338, TC-339, TC-340, TC-344, TC-346, TC-348, TC-350, TC-351, TC-354, TC-358, TC-359, TC-364, TC-365, TC-368, TC-369, TC-370, TC-371, TC-372, TC-377, TC-378, TC-386, TC-387, TC-389, TC-434, TC-435, TC-436, TC-437, TC-438, TC-439, TC-440, TC-444, TC-445, TC-446, TC-447, TC-453, TC-454, TC-455, TC-456, TC-468, TC-470, TC-473, TC-486, TC-487, TC-488, TC-489, TC-492, VDP-055, VDP-092, VDP-314, VDP-319, VDP-320, VDP-323, VDP-326, VDP-332, X-8880, X-8881, X-8882, X-8887, X-8896, X-8897, X-8898, X-8899, X-8903, X-8904, X-8917, X-9020, TC-375, TC-349	"X" containers are baskets located in the HLWIS.
26	Mixed Waste	18	12-3555, 16027, TD-1192, TD-1458, X-8378, X-9359, X-9360, X-9377, X-9379, X-9397, X-9398, X-9399, X-9389, X-9410, X-9412, X-9426, X-9433, X-9434	

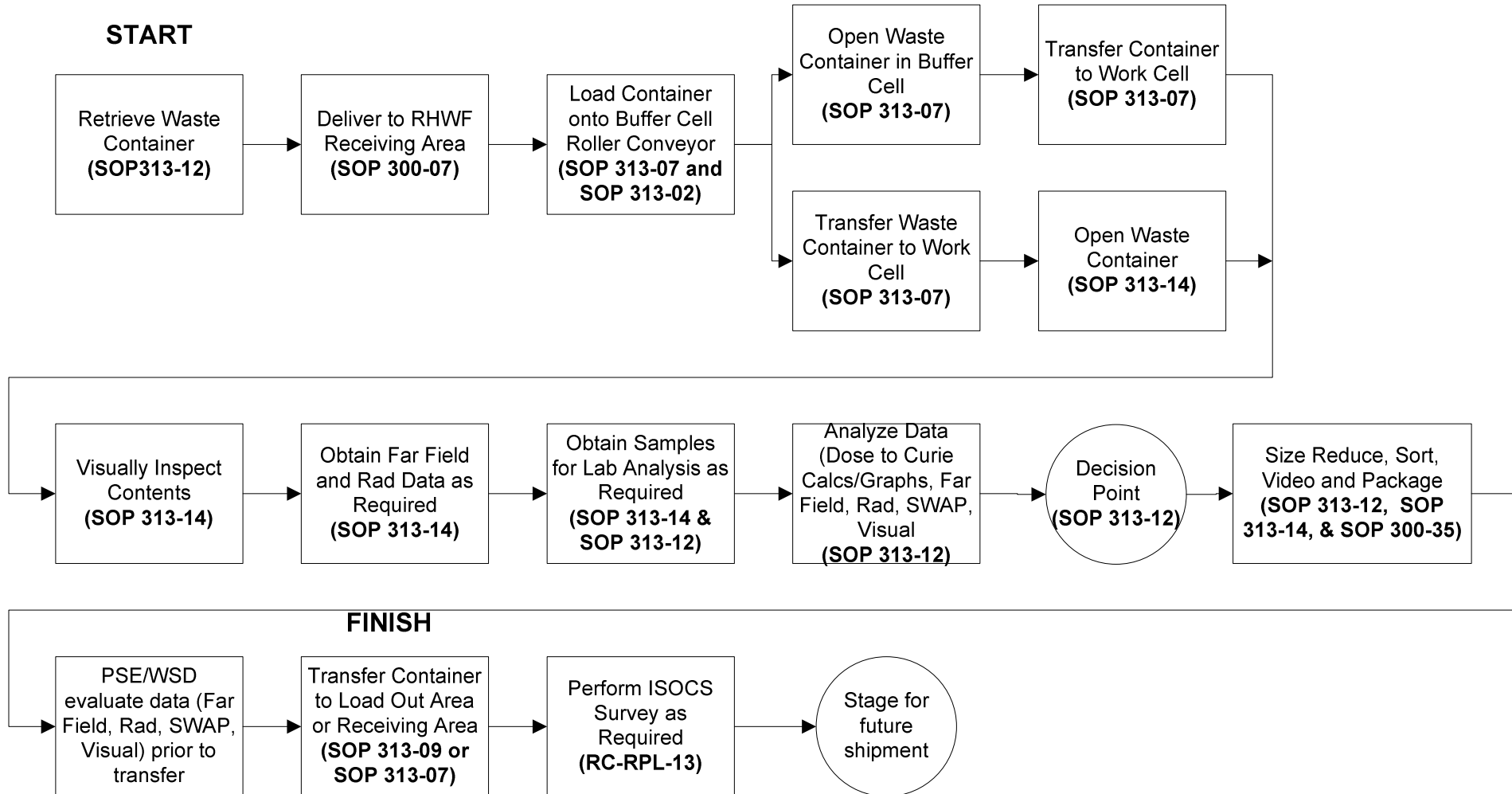
ATTACHMENT C
RHWF Waste Stream Container Identification
 (Page 4 of 5)

WS-SS	Preliminary Description	QTY	Container ID Numbers	Special Info
27	RH-TRU Debris	178	SHLD-001, SHLD-002, SHLD-003, SHLD-004, SHLD-005, SHLD-006, SHLD-007, SHLD-008, SHLD-009, SHLD-010, SHLD-011, SHLD-012, SHLD-013, SHLD-014, SHLD-015, SHLD-016, SHLD-017, SHLD-018, SHLD-019, SHLD-020, SHLD-021, SHLD-022, SHLD-023, SHLD-024, SHLD-025, SHLD-026, SHLD-027, SHLD-028, SHLD-029, SHLD-030, SHLD-031, SHLD-032, SHLD-033, SHLD-034, SHLD-035, SHLD-036, SHLD-037, SHLD-038, SHLD-039, SHLD-041, SHLD-042, SHLD-043, SHLD-044, SHLD-046, SHLD-049, SHLD-053, SHLD-058, SHLD-060, SHLD-061, SHLD-064, SHLD-065, SHLD-066, SHLD-067, SHLD-068, SHLD-069, SHLD-070, SHLD-071, SHLD-072, SHLD-073, SHLD-074, SHLD-075, SHLD-076, SHLD-077, SHLD-078, SHLD-079, SHLD-081, SHLD-082, SHLD-084, SHLD-085, SHLD-086, SHLD-087, SHLD-088, SHLD-089, SHLD-090, SHLD-091, SHLD-092, SHLD-093, SHLD-094, SHLD-095, SHLD-096, SHLD-097, SHLD-098, SHLD-099, SHLD-100, SHLD-101, SHLD-102, SHLD-103, SHLD-104, SHLD-105, SHLD-106, SHLD-107, SHLD-108, SHLD-109, SHLD-110, SHLD-111, SHLD-112, SHLD-113, SHLD-114, SHLD-115, SHLD-116, SHLD-117, SHLD-118, SHLD-119, SHLD-120, SHLD-122, SHLD-123, SHLD-126, SHLD-127, SOP-441, SOP-509, SP-166, SP-168, SP-170, SP-171, SP-172, SP-175, SP-176, SP-178, SP-182, SP-184, SP-185, TC-179, TC-195, TC-207, TD-1369, TD-1387. SHLD-125, TD-2781, TD-2852, TD-2858, TD-2859, TD-2860, TD-2861, RHWF-115 TD-1001, TD-1006, TD-1020, TD-1021, TD-1024, TD-1025, TD-1026, TD-1031, TD-1032, TD-1035, TD-1037, TD-1038, TD-1047, TD-1148, TD-763, TD-965, TD-992, TD-745-B OP-603, OP-611 TD-456 TC-161, TC-177, TD-442, TD-493, TD-700, TD-3056 SP-075, SP-076. TD-3095, TD-3108 TD-2887. TC-116, 2887 TD-1470, TD-1573, WV-TD-2981-R, WV-TD-2989-R	

ATTACHMENT C
RHWF Waste Stream Container Identification
(Page 5 of 5)

WS-SS	Preliminary Description	QTY	Container ID Numbers	Special Info
27 (cont)	RH-TRU Waste Debris		TD-3167, WV-TD-3162-R, TC-278, 16096 TC-449, TC-193	

ATTACHMENT D
RHWF Process Flow
(Page 1 of 1)



ATTACHMENT E
RHWF Processing Areas
(Page 1 of 1)

Following is a brief description of the purpose of the main areas in the RHWF.

Receiving Area

1. Receive containers of waste transported in a shield box on a transport trailer, on an open trailer with shadow shield, or with a forklift.
2. Allow controlled movement of waste containers into the facility with some shielding provided.
3. Provide the clean bridge crane storage and maintenance area.
4. Provide weather protection for unloading transport vehicles.

Buffer Cell

1. Provide contamination control.
2. Act as an air lock between the Receiving Area and the Work Cell.
3. Allow contained movement of waste containers into the Work Cell with some shielding provided.
4. May be used as a radiologically controlled area for surveying waste containers or for contact-handled operations such as repackaging, overpacking, swipe sampling, or removing large sized waste boxes when radiological conditions do not mandate remote handling operations.
5. May be used for surveying waste containers.

Work Cell

1. Primary work area within the RHWF for fully remote handling, surveying, segregating, size reduction, sampling, decontaminating, and repackaging operations.

Waste Packaging Area

1. Provide a confined and shielded space for efficiently loading out filled waste drums and box liners.
2. Provide the physical boundaries necessary to bring material out of the Work Cell area with radiological contamination levels greater than 10^{12} dpm/100 cm², without contaminating the exterior surface of the 55-gallon TRU drum or B-25 box.

Survey & Spot Decontamination Area

1. Provide the third confinement zone outside the Work Cell, the second confinement zone being provided by the airlock design of the Waste Packaging Area.
2. Provide a space for surveying, spot decontamination, and overpacking of filled waste containers.

Load-Out Truck Bay

1. Provide a path for removing waste containers from the RHWF.
2. Provide an open and an out-of-the-weather location for performing an NDA of disposal-ready containers.

ATTACHMENT F
Evaluation and Approval Requirements Processing Additional Waste Streams Through RHWF
(Page 1 of 1)

DELETED

ATTACHMENT G
Post Outage Prerequisite Checklist
 (Page 1 of 3)

Prereq Number	Prerequisite Description	Exception (List any noted.)	Prerequisite Complete (Exceptions noted) RHWFS Sign & Date unless otherwise noted.	RHWF Operations Manager Review of Exceptions (Acceptable/Resolved/ Sign/Date)
1	Lessons learned since the last outage reviewed by crew and incorporated into procedures as appropriate.			
2A	Work Cell and Buffer Cell are deconned.			
2B	Sample Transfer Drawer deconned.			
2C	Op Aisle Glovebox gloves deconned or changed.			
2D	Liquid Sample Glovebox deconned and gloves deconned or changed.			
2E	Cutting tools: spare blades available.			
2F	Sample Hood deconned.			
2G	WPA surveyed and deconned to acceptable levels.			
2H	MSM fingers changed.			
2I	Floor drain filters/strainers replaced since previous processing cycle.			
2J	Vacuum contents removed and hose replaced if suspect PCB contaminated waste vacuumed.			
3	Shielded fork lift or other transfer vehicle available.			
4	Conveyor system is operational.			
5A	Shield door 313-M-001A/1B is operational			
5B	Shield door 313-M-005A/5B is operational			
5C	Air control door 313-XX-065 is operational			
5D	All Shield doors and air control doors are closed.			

ATTACHMENT G
Post Outage Prerequisite Checklist
 (Page 2 of 3)

Prereq Number	Prerequisite Description	Exception (List any noted.)	Prerequisite Complete (Exceptions noted) RHWFS Sign & Date unless otherwise noted.	RHWF Operations Manager Review of Exceptions (Acceptable/Resolved/ Sign/Date)
6A	Work Cell Bridge Crane 313-W-001 is operational.			
6B	Receiving Area Bridge Crane 313-W-002 is operational.			
6C	Work Cell Manipulator Bridge PDMs are operational.			
6D	Jib Crane PDM is operational.			
7	Deleted	None	NA	NA
8	Both gloveboxes indicate they are under vacuum by negative pressure being indicated on their Pressure Indicators.			
9	Transfer drawer returned to normal stowed position (between positions 27.000 and 27.300).			
10	All surveys required by the Rad Safety survey plan have been performed.			
11	CCTV system is available to monitor container movements, waste segregation and container filling operations.			
12	Video recording capabilities are available.			
13	Deleted	None	NA	NA
14	Waste Packaging System is operational.			
15	HVAC system normal.		(PSOS)	
16	Stack Monitoring system normal.			
17	Survey/Spot Decontamination Area and the Load-out Truck Bay are available for load out of filled drums and boxes.			

ATTACHMENT G
Post Outage Prerequisite Checklist
 (Page 3 of 3)

Prereq Number	Prerequisite Description	Exception (List any noted.)	Prerequisite Complete (Exceptions noted) RHWFS Sign & Date unless otherwise noted.	RHWF Operations Manager Review of Exceptions (Acceptable/Resolved/ Sign/Date)
18A	Valve Lineup for Waste Collection and Transfer System Complete.		(PSOS)	
18B	Status of wastewater tanks: Buffer Cell/CMA Collection Tank _____ Work Cell Collection Tank _____ Batch Transfer Tank _____		(PSOS)	
19	(RHWFS or FM SIGNATURE REQUIRED): All specified preventive and routine maintenance has been satisfactorily reviewed and completed.			
20	(RHWFS COG ENG MGR SIGNATURE REQUIRED): RHWF Cognizant Engineering Manager shall review all noted exceptions, problems, or discrepancies and forward a list of these with any concerns to the RHWF Operations Manager.		(Cog Eng Mgr)	
21	(RHWFS SIGNATURE REQUIRED): Review all RHWF tagout logs, temporary modifications logs and round sheets for discrepancies or conflicts which could preclude establishment of required RHWF conditions or prerequisites.			
22	RHWF Facility Manager approval to proceed with waste processing.		(FM)	

ATTACHMENT H
Run Plan Exception (RPE)
(Page 1 of 3)

INSTRUCTIONS

An RPE is used by The Waste Facilities and Logistics Manager (FLM) or Remote-Handled Waste Facility Supervisor (RHWFS) to make modifications to this IRP. The purpose of an RPE is to allow one time or short duration exceptions to processing logic, sequence, sampling, etc. An RPE shall not be used for instances that are normally expected to be identified and corrected using an Issue Report per WVDP-357.

FLM or RHWFS initiate RPE. Complete RPE as follows:

1. Print name of originator.
2. Enter step or section of the IRP the RPE refers to.
3. Enter the next sequential RPE number. Also, enter required information in the Run Plan Exception Log (RPEL).
4. Enter an accurate and detailed description of the RPE being requested. Note any special conditions/circumstances identified.
5. Sign the Description of Exception (originator).
6. Enter the date and time which the RPE was initiated.
7. Enter the steps or sections of the IRP which will be affected by the listed corrective action or problem resolution.
8. Enter the appropriate corrective action or problem resolution.
9. The WFL or RHWFS signs the Resolution of Exception.
10. Obtain appropriate approvals. Minimum approval for an RPE is the Facility Manager. Other approvals may be required based on the Quality Level of the product, radiological conditions, etc. Approval requirements are determined by the Facility Manager.
11. Originator make copies of RPE and distribute to required individuals. As a minimum, those who approved the RPE shall receive a copy.
12. Enter the RPE number and description in the shift operations logbook.
13. After the exception resolution or corrective action is complete and the RPE is no longer required, the FLM or RHWFS sign and date the RPE.
14. Maintain original copy of the RPE with the IRP.

ATTACHMENT H
Run Plan Exception (RPE)
 (Page 2 of 3)

RUN PLAN EXCEPTION IRP-006		
NAME:	STEP #	RPE #
DESCRIPTION OF EXCEPTION: _____ _____ _____ _____ _____		
ORIGINATOR:	DATE:	TIME:
AFFECTED STEPS:		
RESOLUTION OF EXCEPTION: _____ _____ _____ _____ _____ _____ _____ _____		
WFL or RHWFS:	DATE:	TIME:
CONCURRENCE		
(COG MAN):	IS:	
(COG ENG):	QA:	
(FAC MAN):	RC:	
<input type="checkbox"/> RESOLUTION ACTION COMPLETE. _____ <div style="display: flex; justify-content: space-around; width: 100%;"> RHWFS or WFL DATE/TIME </div>		

ATTACHMENT H
Run Plan Exception (RPE
(Page 3 of 3)

Run Plan Exception Log IRP-006				
RPE #	WASTE SUBSTREAM	DESCRIPTION	NAME	DATE
RH-001				

- DUPLICATE AS NECESSARY

ATTACHMENT I
Container Data Package
(Page 1 of 1)

DELETED

ATTACHMENT J
Special Radiological Controls
(Page 1 of 1)

Procedure RC-RPO-108, "RHWF Shield Verification Survey," details the survey requirements for periodic verification of the adequacy of the shielding in the RHWF.

When containers above certain contact dose rates (5 R/Hr, 15 R/Hr, 50 R/Hr, and 100 R/Hr) are anticipated to be brought into the RHWF as documented in SOP 313-12, a Shield Verification Survey will be performed. In addition, if during processing operations, dose rates are determined to be higher than the maximum anticipated for any container in a waste stream and one of the trigger levels are exceeded, a shield verification survey will be performed in accordance with RC-RPO-108.

ATTACHMENT K
Substream Prerequisite Checklist
 (Page 1 of 1)

Prereq Number	Prerequisite Description	Exception (List any noted.)	Prerequisite Complete Sign & Date
1	Waste Stream is approved and appears on Attachment C.		(Waste Operations and Compliance)
2	Verify SWAP is approved for the waste stream, if applicable.		(WPD)
3	Verify that the SOP 300-07, Appendix B, Waste Steam Planning Worksheet has been completed for the waste stream and forwarded to WPD.		(RHWFS)
4	Verify that SOP 313-12, Attachment A, RHWf Processing Plan has been completed.		(RHWFS)
5	Waste Substream Briefing conducted for assigned staff.		(RHWFS)
6	Work Cell has been cleaned sufficiently to prevent cross contamination between Substreams.		(RHWFS)
7	Cutting tools: spare blades available.		(RHWFS)
8	An adequate number of empty liners are available to support continued operations. # of box liners required _____. # of drum liners required _____.		(RHWFS)
9	An adequate number of empty containers and overpacks are available to support continued operations. # of boxes required _____. # of drums required _____. # of overpacks req'd _____.		(RHWFS)
10	RHWf Facility Manager approval to proceed with waste processing.		(FM)

WVDP RECORD OF REVISION

Rev. No.	Description of Changes	Revision On Page(s)	Dated
0	Original Issue	All	08/24/01
FC1	Updated Signature List	Cover	04/15/02
	Section 1.0 - changed "operational cost analysis" to "campaign sequencing"	1	
	Section 2.0 - deleted items 12, 13, 14 & 15	2	
	Section 3.2 - added acronyms HPGE & MSM	2	
	Section 4.3 - added 4.3 [3]	3	
	Section 4.5 [2] - added "oversight"	3	
	Section 5.1 - deleted "a preliminary cost.... are finalized" and replaced with "waste input... for waste containers".	4	
	Section 6.0 - took off italics	5	
	Section 7.0 - took off italics	5	
	Attachment A - replaced list	6	
	Attachment C, 7.0 - added "RH-" before "TRU"	10	
	Attachment C, 9.0 - replaced "LLW but" with "mostly CH-TRU". Replaced last sentence	11	
	Attachment C, 13.0 - "GTCC" with "RH-TRU" and replaced "be stored in the HLWIS facility" with "require shielded storage"	11	
	Attachment C, page 4 of 4, replaced chart	12	
	Attachment E, page 2 of 5, replaced table	17	
	Added Attachment M - 6 pages	29	
1	Per ECN 13533		11/14/02
	3.1 - Added definitions "Disposition thru Packaged".	2	
	5.4 - Added reference to Attachments M & N	5	
	Attachment C - Revised processing times for waste streams 12 thru 24.	9	
	Attachment C - Editorial changes made to Notes and assumptions 1F, 9, 10, 12, 13, and 14.	10,11	
	Attachment C - Replaced processing sequencing chart due to revised durations.	12	
	Attachment D - Replaced old Processing Logic Diagrams with latest revision.	13,14,15	
	Attachment E - Replaced first two charts due to revised durations	16,17	
	Add Attachment N, Waste Acceptance Criteria - Changes affect all site personnel -	35	

WVDP RECORD OF REVISION CONTINUATION FORM

Rev. No.	Description of Changes	Revision On Page(s)	Dated
2	Per ECN #25444 Updated title and signature list Renumbered and reordered pages and attachments Section 1.0 - Reworded for clarity Section 2.2 - Replaced the RHWF ICD with WVNS CO Process Flow Diagrams Section 3.1 - Deleted "WAC EVALUATION" Section 3.2 - Added AK, DQO, DSA, NDA, SAP, SWAP & WAC to the acronym list Section 4.1 - Added planning responsibility Section 4.2 - RHWF Operations section rewritten Section 4.3 - RHWF Engineering section rewritten Section 4.7 - Added WCO responsibilities Section 5.1 - Rewritten for consistency and clarity. Waste Stream Processing Logic Diagrams (old Attachment D) replace with RHWF Process Flow. Section 5.3 - Attachment H, ALARA Considerations deleted. This info will be moved to the RHWP Project Implementation Plan (PIP) Section 5.4 - Attachment E, RHWF Operations Summary; Attachment I, Utility Requirements; Attachment J, Storage/Staging Req'ts; Attachment K, Key Operational Interfaces; Attachment L, Hazard Analysis; and Attachment M, Failure Mode And Effects Analysis have all been deleted. This info may be moved to the RHWP PIP. Section 6.0 - This section entirely rewritten Section 7.0 - Rewritten for clarity Section 8.0 - "Change Control" section deleted. "Records Maintenance" moved from Section 9.0 to Section 8.0. Attachment A - Added "Alarms/Responses" to the SOP list. Attachment B - Rewritten for consistency Attachment C - Major rewrite of this attachment Attachment D - Logic Diagrams replaced with RHWF Process Flow Attachment H - Added Prerequisite Checklist Attachment I - Added Sample Run Plan Exception forms	Cover Page All 1 1 2 2 3 3 3 4 4 5 5 5 6 6 6 8 9 10 12 16 18	01/15/03
3	Per ECN #25527 General Revision Enhancements made to move the procedure toward operational use. This revision affects Waste Management, PSO/RHW Ops, Quality Assurance, A&PC, Radiation Protection Operations, Environmental Affairs, the Cog Design Mgr, and Cog Design Engineer		03/26/03

WVDP RECORD OF REVISION CONTINUATION FORM

Rev. No.	Description of Changes	Revision On Page(s)	Dated
4	<p>GENERAL REVISION</p> <p>Initial Startup Plan and Campaign Prerequisites updated. SOP scopes detailed. Procedure/Sequence section completed. Prerequisite checklist expanded.</p> <p>This revision affects Waste Shipping and Disposal, PSO/RHW Ops, A&PC, Radiation Protection Operations and Engineering, Environmental Affairs, and RHW Process Engineering</p>	ALL	01/08/04
5	<p>Added WVDP-146, WVDP Technical Safety Requirements, SOP 300-07 and modified posting plan.</p> <p>Added RCRA and TSR to acronym list.</p> <p>Corrected name of Process Support Engineering.</p> <p>Added Rad Protection responsibilities.</p> <p>Added TSR reference</p> <p>Deleted ventilation line-up from 6.3.[5], and modified 6.3.[6]. Added Waste Disposition Project Manager review sign-off.</p> <p>Added new start-up step 10.</p> <p>Corrected SOP reference and added TSR reference.</p> <p>Added campaign briefing and ALARA requirements.</p> <p>Clarified attachment for Waste Liner Data Sheet.</p> <p>Added ALARA post-job briefing.</p> <p>Clarified the scope of SOP 313-09.</p> <p>Clarified SOP reference.</p> <p>Corrected containers ID numbers in Attachment C.</p> <p>Revised Process Flow.</p> <p>Added TSR reference.</p> <p>Revised Prerequisite Checklist.</p> <p>Clarified Attachment I.</p> <p>This revision affects affects all RHW personnel.</p>	<p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>6</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>14</p> <p>17</p> <p>18-19</p> <p>20</p> <p>23</p> <p>24-28</p> <p>32</p>	04/01/04

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Rev. No.	Description of Changes	Revision On Page(s)	Dated
6	<p>Added a new hazards paragraph to the scope.</p> <p>Revised the responsibilities for RPO.</p> <p>Added responsibilities for WSD.</p> <p>Made editorial changes to section 7.0.</p> <p>Editorial changes to SOP scopes, Attachment A and B.</p> <p>Revised Attachment C, Waste Stream description column to read "Preliminary Description". This addresses ORR observation MS.7.1-OBS1.</p> <p>Revised title Attachment F.</p> <p>Revised many prerequisites in Attachment G, including:</p> <p>Added 4J to Attachment G to ensure that vacuum waste and hose removed if suspect PCB waste vacuumed.</p> <p>Moved the Valve lineup for the Waste Collection and Transfer system from 6.3.[6] to Attachment G.</p> <p>Revised Attachment H instructions Form WV-3502.</p> <p>Deleted liner inspection signoff from Attachment I.</p> <p>This change affects DDWO, PSO, RPO, WSD, and RHWF Process Engineering.</p>	<p>3</p> <p>6</p> <p>6</p> <p>10-11</p> <p>13-17</p> <p>18-19</p> <p>12,22-23</p> <p>24-28</p> <p>25</p> <p>27</p> <p>29</p> <p>32</p>	05/26/04
7	<p>Revision</p> <p>Changed Cognizant Author.</p> <p>Recorded signatures and dates.</p> <p>The following changes were made to Attachment C:</p> <p>Added Note to state that campaign sequencing is not mandatory.</p> <p>Split Waste Campaign 2 into two waste campaigns, making a new campaign 3 and renumbering the remaining campaigns.</p> <p>Added Notes 1 and 2 for Waste Campaign 3 to provide more detail on two of the containers.</p> <p>Added one container from Waste Stream 17 to Waste Campaign 2.</p> <p>Deleted "LLW" or "TRU" from Preliminary Descriptions.</p> <p>Added "for surveying waste containers or"... to Attachment E, Buffer Cell, number 4 to match the wording in the SAR.</p> <p>This change affects DDWO and RHWF Process Engineering.</p>	All	08/04/04

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Rev. No.	Description of Changes	Revision On	
		Page(s)	Dated
8	Revision Changed from processing by waste campaigns to processing by substreams with all of the requisite changes to steps and attachments.	All	12/29/04
	Added VIT waste to Attachment C, RHWF Waste Stream Container Identification.	20	
	Added a block to Attachment D, RHWF Process Flow Path, to have PSE/WSD evaluate the data (i.e., Far field, Rad, SWAP, visual) prior to removal from the Work Cell. Made changes to correct and refine the flow chart.	21	
	Minor corrections and clarifications were made throughout the procedure.		
	This change affects DDWO and RHWF Process Engineering.		
9	Revision Removed the VIT waste from Attachment C, RHWF Waste Stream Container Identification.	19	02/25/05
	This change affects RHWF Process Engineering		
10	Revised Attachment C to show that 3E-1/7E-5/7E-8 has been deleted from WS 15 and added to WS-12/13.	18,19	05/11/05
	Changed FM on cover page.	1	
	This change affects RHWF Process Engineering.		
11	General Revision. Updated Cognizant Author and Manager. Added dose-to-curie graphs to Attachment D. Minor formatting changes made throughout the procedure.	All	08/25/05
	This change affects RHWF Process Support Engineers.		

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<u>Rev. No.</u>	<u>Description of Changes</u>	<u>Revision On Page(s)</u>	<u>Dated</u>
12	This change was made to clarify that containers other than liners may be used and to add references to the new Attachment F in SOP 313-14 for packaging waste directly into a drum in the WPS without a liner. Changed Form WV-3502 This change affects DDWO and the PSE.	2,6,7,10,11,19,29 26	09/29/05
13	Updated description of first two listed substreams. Added Vitrification Dismantlement Waste Stream to Attachment C. Updated FM on cover page. This change affects WSD, DDWO and the PSE.	17 19 1	02/01/06
14	Section 1.0 was modified to clarify that this procedure does not apply to processing contact-handled waste in the Buffer Cell. Editorial change also made to identify container numbers for Vault 1 and Vault 2 in Attachment C. This change affects the PSE.	3 19	03/21/06
15	Updated FM. Modified procedure to reflect alternate method of removing containers from the Work Cell (through the Buffer Cell) and alternate packaging method of packaging directly into a container (i.e., no liner used). This change affects DDWO.	1 1,10,11,21	08/03/06
16	Updated Cog. Manager and FM. Deleted reference to A&PC in 3.2. Deleted Section 4.1 (A&PC's responsibilities) Added 4.5.5 to WSD responsibilities. 7.14.2 rewritten to reference off-site lab Chain of Custody and to reference SOP 300-24. Deleted reference to A&PC. Updated container number in WS 20-3 to OP-535 and updated note to explain history of waste. This change affects PSEs and WSD.	1 4 5 6 11 16 18	02/08/07
17	Procedure revised to make SWAPs optional documents Changed references to SOP 300-08 to SOP 313-12, Att. B. Updated manager title in 5f. This change affects WSD and PSEs.	6,7,10,15,17,33 10,17 29	03/22/07

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Rev. No.	Description of Changes	Revision On Page(s)	Dated
18	Attachment C - added TC-375 and TC-349 to WS-25 Updated cover sheet. This change affects RHWF Ops and PSEs.	20 1	02/04/08
19	General Revision. Procedure revised to delete Attachments F and I, to update for the current operating strategy at the RHWF, to update department titles and procedure titles, and to add additional waste containers to be processed at the RHWF. This change affects RHWF Operations and PSEs.	All	04/21/08
20	Added new waste stream (WS 26) to Attachment C and added one container to WS 20-5. Clarified Attachment D by adding "Buffer Cell" to indicate that the roller conveyors mentioned are in the Buffer Cell. This change affects RHWF Operations and PSEs.	17-19 20	07/31/08
21	Change made to reflect the use of audio recording for TRU waste and to add new waste stream. Changes made to 7.15.3, Attachment A (SOP 313-14 description), and Attachment C. Att J modified to delete statement that Att C lists containers in order to be processed. This change affects RHWF Operations and PSEs.	All	11/17/08
22	General Revision. Procedure converted to WORD. Updated cover page. Updated titles of references as needed and changed WVDP-106 to SOP 00-52. Added SOP 300-34 to References in Section 2.2 Updated text to refer to form numbers instead of attachments of SOPs. Attachment C - Added TD-745-B. Added waste streams 28 & 29. Added NOTE2. Converted Attachments G and K to forms, added example watermark to attachments and referenced form numbers in procedures. Other minor editorial changes throughout. These changes affects RHWF Operations and PSEs.	All	08/25/09

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Rev. No.	Description of Changes	Revision On Page(s)	Dated
23	<p>Updated cover page. 2.2.6 – changed to SOP 300-35. 7.16, 7.18 & 7.19 – updated to reference SOP 300-35 and the associated form, WV-3829. Added new containers to Attachment C. Attachment D updated to include SOP 300-35 Deleted reference to Attachment F on WV-3533.</p> <p>This change affects RHWF Operations and the PSE.</p>	<p>1 3 10 17,18,20,21 22 33</p>	11/01/10
24	<p>Added the following containers to WS 27: TD-3167, WV-TD-3162-R, TC-278, and 16096. Corrected errors on WS-28. (1) Overpack containers for HEC 374, HEC-372, HEC-369 and HEC-375 were inadvertently left off container list when HEC numbers were removed in Rev. 23. (2) – Deleted one T-218-B as it was listed twice. These changes affect RHWF Operations and the PSE.</p>	20,21	11/11/10
25	<p>Added TC-449 and TC-193 to WS 27. Deleted WS 28 and WS 29.</p> <p>These changes affects RHWF Operations and the PSE.</p>	20-21	03/07/11
26	<p>General Revision. Updated cover page with newest revision of WV-1816 Rev 7. Changed Cognizant Author. In Section 4.0 deleted Process Support Engineering and moved the responsibilities to Waste Planning and Disposition at steps. Deleted PSE throughout the document and replaced it with WPD, FLM, RHWFS, or Waste Operations and Compliance Manager. Deleted the word “Shift” from Remote Handled Waste Facility Shift Supervisor and changed the acronym to “RHWFS” throughout. Added responsibilities for FLM and Waste Operations and Compliance Manager. Deleted Far Field Gamma Assay. Changed Radiological Safety to Radiological Controls. In Step 4.3. Changed (RS) to (RC) throughout. Updated 5.0 Operation Summary. Shortened the Definition of SWAPS in 6.1.1. Updated 7.11 to include Waste Characterization and Packaging Form. Updated description of SOP 313-12 and 313-09 on Attachment A. Deleted “Liquid Waste Sampling Section” on Attachment B. Changed Attachment G (WV-3532) to Rev 1, Changed Attachment H (WV-3502) to Rev 8, and Attachment K (WV-3533) to Rev 2. Deleted TSR from 2.1, 3.2, 5.0 and 7.4.</p> <p>These changes affect RHWFS, FM, RC, FLM, NS and WPD.</p>	All	10/31/12