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EXECUTIVE SUMMARY

Pursuant to Tri-Party Agreement (TPA) requirements, the Fluor Hanford (FH) Central Plateau Remediation Project Environmental Compliance personnel initiated a line management assessment of the 324 Building and 327 Building on August 27, 2002 to evaluate potential mixed waste (PMW) and mixed waste (MW) matrices. The TPA requirements under milestone M-026-01 refer to this assessment as a Land Disposal Restriction (LDR) storage assessment.

Field assessment activities were conducted during the fourth quarter of CY2002. The scope of the assessment was to validate the status of PMW and MW reported in the CY2001 LDR Report for the 324 and 327 Buildings, identify any other material that should be considered PMW or MW, and when appropriate, to assess the long-term safety posture of PMW against *Resource Conservation Recovery Act* (RCRA) storage criteria/standards.

A meeting was conducted on November 14, 2002, for the assessment of the 327 Building, at the FH offices in the 300 Area. The assessment team, facility points of contact, RL, and subject matter experts attended the meeting. The assessment scope and the areas to be assessed were discussed. A post-assessment meeting was held immediately following the walk through.

The 327 Building assessment resulted in one Finding and one Observation. The Finding concerns the discovery of lead that will be added to the Potential Mixed Waste Table. The Observation concerns the management of material in the Special Environmental Radiometallury Facility (SERF) Cell that was previously not expected or forecasted to need mixed waste management. A recent preliminary designation determined the material will be a mixed waste. The CY2001 LDR Report did not report this inventory as a forecasted mixed waste. Since the volume of the mixed waste is very small, there will be no apparent change in the forecasted volume for the 327 Building Location-Specific Data Sheet under MLLW-02 when this mixed waste is added to the existing volume.

A meeting was conducted on November 21, 2002, for the assessment of the 324 Building, at the FH offices in the 300 Area. The assessment team, facility points of contact, and subject matter experts attended the meeting. The assessment scope and the areas to be assessed were discussed. A post-assessment meeting was held immediately following the assessment.

The 324 Building assessment resulted in one Finding and two Observations. The one Finding concerns the identification of reactive matrices in the Shielded Material Facility (SMF) that will be identified as forecasted MW under treatability group MLLW-10. The two observations will lead to (1) deleting the Shielded Glovebox in Room 3G from the Potential Mixed Waste Table and (2) adding forecasted mixed waste inventory for elemental lead to the existing 324 Location-Specific Data Sheet under treatability group MLLW-05.

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1 INTRODUCTION AND SCOPE

A. Background

The 324 and 327 Buildings Deactivation Project scopes include curtailment of the operating missions; stabilization of facility systems, equipment, and residual contamination; removal of highly contaminated equipment; and containerization and removal of the 324/327 Buildings "Special Case Waste" (as defined by *Hanford Federal Facility Agreement and Consent Order* [Tri-Party Agreement] Milestone M-92) and other waste managed under Tri-Party Agreement (TPA) Milestone M-89. The scope also includes the closure of various areas within the 324 Building to meet requirements established in the *324 Building Radiochemical Engineering Cells, High-Level Vault, Low-Level Vault, and Associated Areas Closure Plan,* DOE/RL-96-73. Neither building is operating under a RCRA Part A, Form 3 Dangerous Waste Permit Application. However, pursuant to the TPA provisions, the areas covered in the above mentioned closure plan for the 324 Building are being closed. Other portions of the 324 Building and all of the 327 Building are being cleaned up on a schedule to support the overall 300 Area schedule in the TPA.

An amendment to *324 Building Radiochemical Engineering Cells, High-Level Vault, Low-Level Vault, and Associated Areas Closure Plan,* DOE/RL-96-73 was developed as required to meet Tri-Party Agreement Milestone M-094-02. This amendment integrates the RCRA closure activities with facility disposition under *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980.*

The negotiations that led to.Tri-Party Agreement Milestone M-094-02 and other changes to the Tri-Party Agreement are related directly to a new vision for accelerating cleanup on the Hanford Site. Tri-Party Agreement change number M-094-01 includes a milestone for the complete disposition of the 324 and 327 Buildings by 2010.

B. Assessment

This assessment addresses PMW identification and subsequent handling and storage. The purpose of this assessment is to provide information for DOE's Annual Land Disposal Restrictions (LDR) Report (HFFACO Milestone M-26-01). The scope of the assessment is to validate the status of PMW and MW matrices in the 324 and 327 Buildings and identify any other material that should be considered a PMW or forecasted MW, and assess the long-term safety posture of those items against RCRA storage criteria/standards. In addition, this assessment considered the 324 and 327 Waste Identification Data System sites that were agreed to with Ecology during resolution of the CY2001 LDR Report comments.

This assessment was conducted to evaluate the total picture of how well the 324 Building and the 327 Building meets RCRA storage criteria/standards and LDR reporting requirements. The management assessment entailed selected sampling review of records, facility inspections, and

personnel interviews, tailored to the specific activities being performed at the 324 and 327 Buildings.

2 METHODS

FH began an initial LDR storage assessment at the 324 and 327 Buildings on August 27, 2002. Additional assessment activities were conducted throughout the fourth quarter of CY2002. Assessment meetings were held in the 300 Area on November 14 and 21, 2002. The purpose of the assessment was declared and the scope of the assessment was described. The assessment was conducted using the process of the RL Analysis and Evaluation Division procedure A&E-01, *Evaluation of Contractor Performance in Meeting Waste Management Storage Requirements*, as well as HNF-PRO-246, *Management Assessment*, and CP-PRO-003, *Management Assessment Program*. Based on agreement with Ecology, satellite accumulation areas and 90-day accumumulation areas are not part of the LDR storage assessment.

The methods used for these assessments were a combination of document review, interviews, and visual inspection. The areas within the 324 Building and the 327 Building were inspected and regulatory documents were reviewed to develop the areas of primary focus for the assessment. Emphasis was placed on those areas listed as "areas of concern" by the State of Washington Department of Ecology (Ecology) in letters, *327 Building Solid Waste Management Units (SWMUs) Identification in the Waste Information Data System (WIDS)*, dated July 12, 1999, and *324 Building Solid Waste Management Units (SWMUs) Identification in the Waste Information Data System (WIDS)*, dated May 17, 1999. The documents used to develop the checklist (Appendices A and B) for the assessment included the interim status provisions of WAC 173-303 and 40 CFR, as non-requirement criteria for evaluating PMW.

Assessment Team Members

324/327 Facility Team Members:
Albert Montelongo
Dave Rasmussen
Monica Serkowski
Chris Haas

DOE Team Member:
Greg Sinton

FH Environment and Regulation Team Members:
Tony Miskho
Raja Ranade

3 RESULTS

Appendices A and B, document the comparison of the criteria/standards to the PMW and MW conditions observed, during this assessment. Below are the results of the assessment. The assessment found that additions and deletions for 324 and 327 Building need to be made to the CY2002 LDR Report. The 324 Building Shielded Glovebox can be removed from the CY2002 LDR Report based on the visual inspection and subsequent classification of the contents as 'floor sweepings'. The additions to the CY2002 LDR Report are summarized in the Findings and Observations (Section 4).

3.1 GENERAL

1) Waste determinations and treatment standards (WAC 173-303-140, 40 CFR 268): Except for the matrices managed under the 324 Building Closure Plan, information to determine what waste codes would apply to the matrices has not been obtained. Until information is obtained to determine waste codes, an evaluation to determine treatment standard applicability cannot be made. Information will be obtained during the characterization, inventory, and subsequent clean out of the SMF, scheduled for commencement in FY2003.

   No issues were found.

2) WAP (WAC-173-303-300): A WAP has not been prepared for the 324 or 327 Buildings. Characterization activities will occur during SMF clean out to obtain information about PMW.

   No issues were found.

3) Facility Security (WAC-173-303-310): Both facilities have posted the correct warning signs on the outside of the buildings and at all entry points.

   No issues were found.

4) Inspections (WAC-173-303-320): There is no existing inspection schedule for the 324 or 327 Buildings, however routine facility operating procedures are in place to prevent conditions that could lead to a release of mixed waste to the environment.

   Documents reviewed:

   - HNF-IP-1264, Section 5.2, *Shift Routines and Operating Practices*
   - HNF-IP-1264, Section 6.3, *Inspection of Containerized Dangerous Waste*
   - 3I-SOP-W-05, *Receipt Inspection of Waste Containers*

   No issues were found.

5) Personnel Training (WAC-173-303-330): Training records indicated that the training coordinator was assigned, that applicable courses were listed, and personnel requiring

training in their particular areas were current as required. The written training plan had the necessary content, training frequencies, and training techniques. Job descriptions were matched to the training requirements covering requisite skills, education, qualifications, and duties for each position. It was clear that the training was relevant to the positions and the deactivation work being performed in the 324 and 327 Buildings.

Documents reviewed:

- HNF-IP-1285, Revision 5, *River Corridor Project, 324 and 327 Building, Dangerous Waste Training Plan (DWTP)*
- Training qualification card for the 324/327 Environmental Compliance Officer

No issues were found.

6) Preparedness, Contingency Plan, and Emergencies (WAC 173-303-340, 350 & 360): Each facility's building emergency plan was established to fulfill the regulatory requirements regarding contingency planning and emergency procedures. The building emergency plans include emergency responses associated with mixed waste. In addition, the building emergency plans will be followed for chemical or radiological releases of waste or materials either during loading, off loading, or accumulation of such waste/materials.

Documents reviewed:

- HNF-IP-0263-324, *Building Emergency Plan for 324 Facility*
- HNF-IP-0263-327, *Building Emergency Plan for 327 Facility*

No issues were found.

7) Facility Records (WAC-173-303-380): Operating records are maintained per facility procedures and regulatory requirements. Records associated with waste management and regulatory compliance are maintained in the Regulatory File in MO-275, Room 9.

Documents reviewed:

- *Environmental Regulatory File Checklist*
- HNF-IP-1264, Section 2.20, *Records Management*
- HNF-IP-1264, Section 6.1, *Waste Management Plan*

No issues were found.

8) Closure and post closure (Tri-Party Agreement (TPA) Action Plan 5.3, WAC 173-303-610): Closure of the 324 and 327 Buildings will be in conjunction with the Tri-Party Agreement Milestone M-094-03. The M-094-03 milestone requires complete disposition of specified facilities, including the 324 and 327 Buildings by September 30, 2010. Post closure plans for the 324 and 327 Buildings have not yet been issued.

Document reviewed:

- *Hanford Federal Facility Agreement and Consent Order*

No issues were found.

3.2 SPECIFIC

1. Use and management of containers (40 CFR 265, Sub I): The 324 and 327 Building assessments included inspection of areas where matrices were containerized, except for satellite accumulation area and 90—day accumulation areas. Waste matrices in these areas were consistent with those listed in the CY2001 LDR report data sheets for the 324 and 327 Building.

   No issues were found.

   1.1) Condition of containers (265.171): Containers inspected in the 324 and 327 Buildings were in good condition and intact.

   No issues were found.

   1.2) Compatibility of waste with containers (265.172). Waste is packaged per facility operating procedures which precludes the placement of incompatible waste in containers.

   No issues were found.

   1.3) Management of Containers (265.173): The containers inspected at the 324 and 327 Buildings were closed and were not ruptured.

   No issues were found.

   1.4) Inspections (265.174): See general discussion regarding inspections.

   1.5) Ignitable, reactive, or incompatible waste (265.176 and .177). No containers holding a waste matrix that is ignitable, reactive, or incompatible was noted during the assessments.

   No issues were found.

   1.6) Air emission standards (276.178): The 324 and 327 Buildings do not have process vents subject to Subpart AA.

   No issues were found.

   1.7) Labels (WAC 173-303-630(3)): The matrices were not labeled.

No issues were found.

1.8) Secondary Containment (WAC 173-303-630(7)): Secondary containment was not provided for the matrices. Matrices either do not have free liquids or are located in hot cells.

No issues were found.

2. Tank systems (40 CFR 265, Subpart J): Tank systems in the 324 Building will be dispositioned per *324 Building Radiochemical Engineering Cells, High-Level Vault, Low-Level Vault, and Associated Areas Closure Plan,* DOE/RL-96-73. No tank systems containing mixed waste are present in the 327 Building. Both buildings are currently undergoing deactivation.

2.1) Tank integrity inspection, Independent Qualified Registered Professional Engineer assessment and secondary containment (265.191, .192, and .193): No integrity assessment has been performed. See discussion above.

No issues were found.

2.2) General operating requirements and inspections: (265.194 and .195): See general discussion regarding inspections. Tanks are located in vaults within the 324 Building. Lighting in the vaults is limited.

No issues were found.

2.3) History of leaks or spills and tank fitness for continued use (265.196): There is no planned future use for the tank systems in the 324 and 327 Buildings. Both buildings are in the process of being deactivated.

No issues were found.

3. Closure and post closure (265.197): Tank systems in the 324 Building will be dispositioned per *324 Building Radiochemical Engineering Cells, High-Level Vault, Low-Level Vault, and Associated Areas Closure Plan,* DOE/RL-96-73. No tank systems containing mixed waste are present in the 327 Building. Both buildings are currently undergoing deactivation.

2.5) Ignitable, reactive, or incompatible waste (265.198 and .199): The 324 Building tank systems may contain residual chemicals from a defined process with known chemicals. None of the chemicals are considered reactive.

No issues were found.

2.6) Labels (WAC 173-303-640(5)(d)). The vessels are not labeled according to the criteria/standards. Tanks are being managed pursuant to the 324 closure plan. .

No issues were found.

3) Containment Building (40 CFR 265 Subpart DD): Many of the matrices were evaluated against the containment building requirements because they are not containerized. The 324 Building and the 327 Building themselves, as well as the hot cells within the buildings, provide adequate protection to the matrix from the environment. The cells protect the workers from any hazards associated with the matrices.

- Finding 324-001: SMF Reactive Matrices not identified in CY2001 LDR Report
- Finding 327-001: Basement Lead not identified in CY2001 LDR Report
- Observation 324-001: Lead in SMF to be added to existing Location-Specific Data Sheet for the 324 Building under MLLW-05
- Observation 324-002: Shielded Glovebox in Room 3G to be deleted from the Potential Mixed Waste Table
- Observation 327-001: Material in SERF Cell to be added to existing Location-Specific Data Sheet for the 327 Building under MLLW-02

3.1) Closure and Post closure care (265.1102). Matrices will be removed from the two buildings on a schedule to meet TPA closure critera for the 300 Area.

No issues were found.

4 FINDINGS AND OBSERVATIONS

4.1 FINDINGS

4.1.1 Finding 324-001: SMF Reactive Matrices not identified in CY2001 LDR Report

The LDR storage assessment identified reactive matrices in the SMF. The partial inventory for the Material Open Test Assembly (MOTA) samples indicates that some of the sample tubes may contain small quantities of lithium and sodium. Elemental lithium and sodium will designate as a mixed waste. The MOTA samples consist of small quantities of irradiated metallic media (reactor assemblies) in sample tubes. The MOTA samples were tested in the SMF for tensile, hardness, and fracture strength that will be identified as forecasted MW under treatability group MLLW-10. A new Location-Sepcific Data Sheet will be created in the CY2002 LDR Report.

4.1.2 Finding 327-001: Basement Lead not identified in CY2001 LDR Report

The LDR storage assessment identified lead not in use in the basement of the building. The lead will have a documented use during deactivation of the 327 Building. This lead will be added to Column E of the Potential Mixed Waste Table for the CY2002 LDR Report.

4.2 OBSERVATIONS

4.2.1 Observation 324-001: Lead in SMF to be added to existing Location-Specific Data Sheet for the 324 Building under MLLW-05

Partial inventories of the SMF provided by the Pacific Northwest National Laboratory (PNNL) indicate that lead or lead containing material may be present in the SMF. Because the 324 Building already reports elemental lead under a Location-Specific Data Sheet under treatability group MLLW-05, this lead will be added to the existing forecasted volume. This discovery constitutes an observation since a Location-Specific Data Sheets already exists for this type of matrix.

4.2.2 Observation 324-002: Shielded Glovebox in Room 3G to be deleted from the Potential Mixed Waste Table

The LDR storage assessment found that the shielded glovebox in Room 3G only contains floor sweepings. The glovebox does not meet LDR reporting criteria and can be deleted from the CY2002 LDR Report.

4.2.3 Observation 327-001: Material in SERF Cell to be added to existing Location-Specific Data Sheet for the 327 Building under MLLW-02

During the LDR storage assessment of the 327 Building, a tube of Permatex™ sealant was found in the SERF cell. Subsequent designation determined this material will need to be managed as a mixed waste. The matrix will be added to the existing Location-Specific Data Sheet for the 327 Building under treatability group MLLW-02. Because the volume of the matrix is so small, no change in volume is expected to be seen in the CY2002 LDR Report.

5 PERSONNEL CONTACTED

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6 DATA GAP PLAN

This section fulfills the requirements of a Data Gap Plan, pursuant to the TPA under Milestone M-26-01[1]. Accordingly, a data gap plan must contain the following:

- What you know and what you don't know
- What you need to know
- Why the level of unknowns is acceptable or not acceptable from a safety basis for the interim until action is planned or that more information is needed to make this determination.

The above Data Gap Plan elements need to be addressed for the MW and the PMW matrices identified by the LDR storage assessment[2]. The 324 Building and the 327 Building LDR storage assessment identified the following MW and PMW matrices:

Mixed Waste/Forecasted Mixed Waste Matrices	Potential Mixed Waste Matrices
324 Building REC Waste	324 Shielded Glovebox
324 lead	327 Elemental Lead
327 SERF Sealant	SMF Reactive Matrices
Existing 324 and 327 forecasted waste in data sheets	

What you know and what you don't know

The information presented in this section was obtained from the LDR storage assessment. No additional project evaluation information is presented.

324 Building REC Waste

The 324 Building REC waste is currently being dispositioned per TPA Milestone M-94-01, as outlined in *324 Building Radiochemical Engineering Cells, High-Level Vault, Low-Level Vault, and Associated Areas Closure Plan*, DOE/RL-96-73. Per the closure plan, high risk materials and dispersible mixed waste will be removed from these areas prior to demolition of the building. Extensive sampling and analysis was performed on the dispersible material prior to commencement of cleanout activities. Currently, the majority of the dispersible material has

[1] Letter, Alan E. Hopko, RL, to E. K. Thompson, FH, "Contract No. DE-AC06-96RL13200 – Annual Land Disposal Restriction (LDR) Report Requirements and Notification to Conduct Assessments," 02-WMD-213, #0202987, dated June 25, 2002.

[2] Letter, Sally A. Sieracki, RL, to E. K. Thompson, FH, "Contract No. DE-AC06-96RL13200 – Resource Conservation and Recovery Act (RCRA) Assessment – A&E-SEC-02-009," 02-PMO-0003, #0203878, dated August 19, 2002.

been removed from the 324 REC significantly reducing safety issues associated with these materials.

324 Lead

A partial inventory provided by PNNL for the SMF indicates that lead or lead containing material may be present in the SMF. The exact amount of lead or lead containing material in the SMF is currently unknown due to the existence of only a partial inventory of the contents of the SMF. Efforts to cleanout the SMF commenced in FY2003. During cleanout of the SMF, any lead or lead containing material discovered will be managed as mixed waste. The lead and/or lead containing materials are located within a heavily shielded series of cells and does not present a safety concern. An entry will be made to an existing data sheet for the SMF lead.

327 SERF Sealant

The tube of sealant has been identified, a Material Safety Data Sheet has been obtained, and a preliminary desgination has been performed. The waste designation indicates that the material in the SERF Cell will be managed as a mixed waste during deactivation and cleanout of the SERF Cell. The sealant is contained within a heavily shielded cell and does not present a safety concern. An entry will be made to an existing data sheet for the SERF Cell sealant.

Existing 324 and 327 forecasted waste in data sheets

The existing data sheets for 324 and 327 are appropriate and reflect the mixed waste/forecasted mixed waste.

324 Shielded Glovebox

The LDR storage assessment found that the shielded glovebox in Room 3G of the 324 Building only contains floor sweepings.

327 Elemental Lead

The LDR storage assessment identified lead in the basement of the building that is not currently in use as shielding. The lead will have a documented use during deactivation of the 327 Building.

324 SMF Reative Matrices

The LDR storage assessment identified reactive matrices in the SMF. A partial inventory provided by PNNL for the Material Open Test Assembly (MOTA) samples indicates that some of the sample tubes may contain small quantities of lithium and sodium. Elemental lithium and sodium will designate as a mixed waste. Efforts to further inventory, and subsequently clean out and manage the contents of the SMF commenced in FY2003. The sample tubes are contained within a storage rack which is covered by a 5,000 pound shielded cover block, which is in turn contained within a heavily shielded hot cell.

What you need to know

The information for this item contains the information needed to approach the Tri-Party Agreement lead regulatory agency project manager (Ecology in this case) in order to have discussions on the MW and PMW matrices.

324 Building REC Waste

No additional information is needed. The mixed waste in the 324 REC has been characterized and is currently being managed under TPA Milestones M-94-01, M-92-16, and M-89-00.

324 Lead

No additional information is needed. The SMF lead will be managed as a mixed waste and added to the Location-Specific Data Sheet under treatability group MLLW-05.

327 SERF Sealant

No additional information is needed.. The sealant material will be managed as a mixed waste and added to the Location-Specific Data Sheet under treatability group MLLW-02.

Existing 324 and 327 forecasted waste in data sheets

No additional information is needed. The mixed waste/forecasted mixed waste under existing data sheets can be managed with existing information.

324 Shielded Glovebox

Not applicable. The shielded glovebox contains only floor sweepings. The glovebox does not meet the LDR reporting criteria and can be removed from the CY2002 LDR Report Potential Mixed Waste Table.

327 Elemental Lead

No additional information is needed. This lead will be used for shielding during facility deactivation activities. This lead will be added to Column E of the Potential Mixed Waste Table for the CY2002 LDR Report.

324 SMF Reative Matrices

As part of efforts to clean out the SMF, repairs to the SMF crane must be completed to allow for removal of the shielded cover block from the MOTA sample rack. A more complete inventory can then be developed. The MOTA samples containing lithium and sodium will be identified as forecasted MW under treatability group MLLW-10. A new Location-Sepcific Data Sheet will be created in the CY2002 LDR Report.

Why the level of unknowns is acceptable or not acceptable from a safety basis for the interim until action is planned or that more information is needed to make this determination.

The level of unknowns regarding the PMW matrices will not result in any concerns regarding the safe management of the matrices. Sufficient information exists so that there are no likely concerns about ignitable, reactive, or incompatible matrix properties. The 324 hot cell provides adequate protection for the SMF reactive matrices. The project's scheduled activities will be discussed with the TPA lead regulatory agency project manager after the Data Gap Plan is entered into the TPA Administrative Record.

Appendix A – 324 Building Assessment Checklist

WAC 173-303 or 40 CFR citation	Requirement	Applies to location for evaluation (Y/N)?	Meets requirement (Y/N)?	Comments
	Matrices Investigated: • 324 Building REC Waste • Lead in SMF • Reactive Metals in SMF			
General Requirements				
WAC: -140	LDR refers to 40 CFR 268			
268.7(a)(1)	Has a waste determination been performed to assign waste codes?	Y	N	For the 324 Building REC Waste, the closure plan identifies the waste codes. For the other two matrices, information to determine what waste codes would apply to the matrices has not been obtained. Until information is obtained to determine waste codes, an evaluation to determine treatment standard applicability cannot be made. Information will be obtained during the characterization, inventory, and subsequent clean out of the SMF, scheduled for commencement in FY2003.
268.7(a)(1)	Can a treatment standard be assigned to the matrix?	Y	N	For the 324 Building REC waste, yes. For the other two matrices, the waste determination must be completed first.
268.7(a)(1)	Is the treatment standard met for the matrix?	Y	N	For the 324 Building REC waste, no. For the other two matrices, the waste determination must be completed first.
268.7(a)(2), (3), and (4)	Has the required information been submitted to the receiving storage or treatment unit/facility?	Y/N	Y	For the 324 Building REC waste, yes, as appropriate to facilitate shipment. For the other two matrices, question does not apply.
268.7(a)(5)	Has treatment-by-generator requirements been used? Is a waste analysis plan necessary?	N		
268.7(a)(6)	Has knowledge for contaminated soil been retained in records?	N		
268.7(a)(7)	Is the matrix excluded from the definition of hazardous waste or solid waste? Is the explanation in the records?	N		
268.7(a)(8)	Are LDR records maintained on	Y	Y/N	Yes for the 324 Building REC

WAC 173-303 or 40 CFR, citation	Requirement	Applies to location for evaluation (Y/N)?	Meets requirement (Y/N)?	Comments
	site for 3 years.			Waste. For the other two matrices, records have not been generated.
268.7(a)(9)	Will a labpack be managed using the alternative treatment standards?	N		
WAC: -280	General requirements for dangerous waste management facilities. Is there a Part A? Is the location included?	Y	Y	No eminent hazards are believed to exist. No Part A exists for the 324 Building. For the 324 Building REC Waste, storage is pursuant to the TPA.
WAC: -281	Notice of Intent	N		
WAC: -282	Siting Criteria	N		
WAC: -283	Performance standards. Are they met?	Y	Y	The Hanford Site meets the performance standards.
WAC: -300	General Waste Analysis. Is there a detailed description of waste that has been received? Is there a waste analysis plan per (5) and (6)? Get copy. Does the plan meet the criteria?	Y	N	Waste analysis information is contained in the closure plan for the 324 Building REC Waste.
WAC: -310	Security. Are there signs posted, or 24-hour surveillance, or barrier, per (2)?	Y	Y	
WAC: -320	General Inspections: Is there a written schedule per (2)? Get copy. Is there an inspection log? Get copy from last month. Have any problems been remedied?	Y	Y	
WAC: -330	Personnel training. Is there a training program? Is there a written training plan per (2)?	Y	Y	
WAC: -335	Construction Quality Assurance	N		
WAC: -340	Preparedness & Prevention. Is required equipment identified? If not, has demonstration been performed per (1)? Are there communications or alarms per (2)? Is aisle space maintained per (3)?	Y	Y	
WAC: -350	Contingency Plan and emergency procedures. Is there a contingency plan? Get copy. Does it contain criteria in (3)? Is a copy maintained per (4)? Is it up to date per (5)?	Y	Y	
WAC: -355	SARA Title III	Y	Y	This is a site-wide provision.
WAC: -360	Emergencies. Is there an emergency coordinator per (1) (BED/BW)? Has there ever been an emergency? If so, were	Y	Y	The 324 Building maintains an emergency coordinator. An emergency is not known to have occurred.

WAC 173-303 or 40 CFR citation	Requirement	Applies to location for evaluation (Y/N)?	Meets requirement (Y/N)?	Comments
	procedures implemented per (2)?			
WAC: -370	Manifest system. Has waste received been manifested or transferred with on-site shipping records?	N		
WAC: -380	Facility recordkeeping. Is there an operating record? If so, does it contain the information per (1)? Are records maintained per (2)?	Y	Y	Records are maintained in the unit-specific operating record and regulatory file.
WAC: -390	Facility Reporting. Has any unmanifested waste been reported per (1)? Has information been included in annual reports per (2)? Has any additional information been reported per (3)? Are copies maintained per (4)?	N		
WAC: -395	Other general requirements. Does ignitable, reactive, or incompatible matrices exist at the location? If so, are precautions in (1) taken? Are tanks and containers labeled per (6)?	Y	N	Small quantities of lithium and sodium are present in the SMF.
WAC: -610	The TPA Action plan requires closure pursuant to WAC 173-303-610. 40 CFR Subpart G is not used for closure of TSD units at Hanford.	Y	Y	
WAC: -610(2)	Has closure standard to remove or decontaminate been met?	Y	Y	Closure activities are currently underway, per the 324 Closure Plan.
WAC: -610(3)	Is there a written closure plan? Does the plan meet the criteria? Is the plan current?	Y	Y	
WAC: -610(3)(c)	Has there been notification of partial closure?	N		
WAC: -610(4)	Are timeframes met for closure? Has a demonstration for delay of closure been submitted?	N		Closure schedule is governed by the TPA.
WAC: -610(5)	Has waste been removed, treated, or disposed per approved closure plan per –610(5)?	Y	Y	
WAC: -610(6)	Has certification of closure been submitted to Ecology?	N		
WAC: -646	Corrective Action. Has there been a release? If so, were any corrective actions taken? Get any documentation.	N		
265 Subpart AA	Air emissions for process vents. Are there process vents per .1030? If yes, is unit subject to requirements?	N		
265 Subpart	Air emissions standards and	N		

WAC 173-303 or 40 CFR citation	Requirement	Applies to location for evaluation (Y/N)?	Meets requirement (Y/N)?	Comments
BB	equipment leaks			
265 Subpart CC	Air emissions for tanks, containers, and surface impoundments	N		Mixed waste is exempt from Subpart CC requirements.
Specific Requirements				
WAC: - 400(3)(a)	The types of waste management requirements for 40 CFR Subparts for this location include: -Containers (Subpart I) -Tank System (Subpart J) -Containment Building (Subpart DD)			
265 Subpart I	**Use and management of containers**			
265.171	Is container in good condition?	Y	Y	
265.172	Is waste compatible with the container?	Y	Y	Incompatible matrices in containers are not present.
265.173	Management of containers. Are containers closed? Are the containers managed to prevent rupture?	Y	Y	
265.174	Inspections. Are weekly inspections performed?	Y	Y	
265.176	Ignitable and reactive waste. Are ignitable and reactive waste 50 feet from Hanford Site property line	Y	Y	
265.177	Incompatible waste. Are incompatible wastes separated or otherwise protected?	Y	N	Incompatible matrices in containers are not present.
265.178	Is waste managed in compliance with the air emission standards of Subpart AA, BB, and CC?	Y	Y	The 324 Building does not have process vents subject to Subpart AA. There is no organic waste expected subject to Subpart BB. Mixed waste is excluded from Subpart CC.
WAC: - 630(3)	Are containers labeled per – 630(3)?	Y	Y	
WAC: - 630(7)	Are containers provided with secondary containment?	Y	N	Matrices requiring secondary containment are not present.
265 Subpart J	**Tank Systems**			
265.191	Has an integrity assessment been completed per .191? If so, get copy.	N		
265.191	Is assessment certified by IQRPE per 270.11(d)?	N		
265.192	Are new system components designed and installed per .192?	N		

WAC 173-303 or 40 CFR citation	Requirement	Applies to location for evaluation (Y/N)?	Meets requirement (Y/N)?	Comments
	If not, what's missing?			
265.193	Is there secondary containment for the tank(s) and ancillary equipment? If so, does it meet .193 requirement? If not, has a request for a variance been submitted .193(h)?	Y	N	Concrete vault. Does not meet RCRA. The status of the vaults was addressed in the closure plan.
265.194	Are general operating requirements met per .194? List spill prevention controls and overfill prevention controls.	N		
265.195	Are inspections performed per .195? Get copies of last month of inspections.	Y	N	See general requirement for inspections
265.196	Has there been a leak or a spill? What? When?	Y		Unknown, however activities under the 324 closure plan will address this.
265.196	Is the tank unfit for use? If so, has criteria of .196 been met?	Y		Unknown.
265.197	Has waste been removed or decontaminated per .197? Is there a closure plan?	Y	N	See general discussions regarding closure.
265.198 & .199	Is there a clear understanding of what was placed in the tank system? If ignitable or reactive, did it meet ,198 requirements? If incompatible, did it meet .199 requirements?	Y	Y	Matrices are not believed to be ignitable, reactive, or incompatible.
265.200	Waste analysis and trial tests.	N		
WAC: -640(d)	Are tanks labeled per –640(5)(d)?	N		
265 Subpart DD	**Containment Buildings**			
265.1101	Design and operating. Does the containment building comply with the design standards of .1101?	Y	N	The SMF provides adequate protection from any hazards.
265.1102	Closure and post-closure. Has the matrices been removed or decontaminated?	Y	N	SMF cleanout will remove or decontaminate the lead and reactive matrices.

Appendix B – 327 Building Assessment Checklist

WAC 173-303 or 40 CFR citation	Requirement	Applies to location for evaluation (Y/N)?	Meets requirement (Y/N)?	Comments
	Matrices Investigated: • SERF sealant • Basement lead			
General Requirements				
WAC: -140	LDR refers to 40 CFR 268			
268.7(a)(1)	Has a waste determination been performed to assign waste codes?	Y	Y	
268.7(a)(1)	Can a treatment standard be assigned to the matrix?	Y	Y	SERF selant will be reported under MLLW-02.
268.7(a)(1)	Is the treatment standard met for the matrix?	Y	N	
268.7(a)(2), (3), and (4)	Has the required information been submitted to the receiving storage or treatment unit/facility?	N		
268.7(a)(5)	Has treatment-by-generator requirements been used? Is a waste analysis plan necessary?	N		
268.7(a)(6)	Has knowledge for contaminated soil been retained in records?	N		
268.7(a)(7)	Is the matrix excluded from the definition of hazardous waste or solid waste? Is the explanation in the records?	N		
268.7(a)(8)	Are LDR records maintained on site for 3 years.	N		
268.7(a)(9)	Will a labpack be managed using the alternative treatment standards?	N		
WAC: -280	General requirements for dangerous waste management facilities. Is there a Part A? Is the location included?	Y	Y	No eminent hazards are believed to exist. No Part A exists for the 327 Building.
WAC: -281	Notice of Intent	N		
WAC: -282	Siting Criteria	N		
WAC: -283	Performance standards. Are they met?	Y	Y	The Hanford Site meets the performance standards.
WAC: -300	General Waste Analysis. Is there a detailed description of waste that has been received? Is there a waste analysis plan per (5) and (6)? Get copy. Does the plan meet the criteria?	Y	N	No additional testing is anticipated to manage these matrices.
WAC: -310	Security. Are there signs posted, or 24-hour surveillance, or barrier, per (2)?	Y	Y	
WAC: -320	General Inspections: Is there a written schedule per (2)? Get	Y	Y	

WAC 173-303 or 40 CFR citation	Requirement	Applies to location for evaluation (Y/N)?	Meets requirement (Y/N)?	Comments
	copy. Is there an inspection log? Get copy from last month. Have any problems been remedied?			
WAC: -330	Personnel training. Is there a training program? Is there a written training plan per (2)?	Y	Y	
WAC: -335	Construction Quality Assurance	N		
WAC: -340	Preparedness & Prevention. Is required equipment identified? If not, has demonstration been performed per (1)? Are there communications or alarms per (2)? Is aisle space maintained per (3)?	Y	Y	
WAC: -350	Contingency Plan and emergency procedures. Is there a contingency plan? Get copy. Does it contain criteria in (3)? Is a copy maintained per (4)? Is it up to date per (5)?	Y	Y	
WAC: -355	SARA Title III	Y	Y	This is a site-wide provision.
WAC: -360	Emergencies. Is there an emergency coordinator per (1) (BED/BW)? Has there ever been an emergency? If so, were procedures implemented per (2)?	Y	Y	The 327 Building maintains an emergency coordinator. An emergency is not known to have occurred.
WAC: -370	Manifest system. Has waste received been manifested or transferred with on-site shipping records?	N		
WAC: -380	Facility recordkeeping. Is there an operating record? If so, does it contain the information per (1)? Are records maintained per (2)?	Y	Y	Records are maintained in the unit-specific regulatory file.
WAC: -390	Facility Reporting. Has any unmanifested waste been reported per (1)? Has information been included in annual reports per (2)? Has any additional information been reported per (3)? Are copies maintained per (4)?	N		
WAC: -395	Other general requirements. Does ignitable, reactive, or incompatible matrices exist at the location? If so, are precautions in (1) taken? Are tanks and containers labeled per (6)?	N		No waste matrices of this nature are present.
WAC: -610	The TPA Action plan requires closure pursuant to WAC 173-303-610. 40 CFR Subpart G is not used for closure of TSD units at Hanford.			
WAC: -	Has closure standard to remove or	Y	N	327 Building cleanout

WAC 173-303 or 40 CFR citation	Requirement	Applies to location for evaluation (Y/N)?	Meets requirement (Y/N)?	Comments
610(2)	decontaminate been met?			activities will meet the closure standard for these matrices.
WAC: - 610(3)	Is there a written closure plan? Does the plan meet the criteria? Is the plan current?	Y	N	327 Building cleanout activities will meet the closure standard for these matrices.
WAC: - 610(3)(c)	Has there been notification of partial closure?	N		
WAC: - 610(4)	Are timeframes met for closure? Has a demonstration for delay of closure been submitted?	N		
WAC: - 610(5)	Has waste been removed, treated, or disposed per approved closure plan per –610(5)?	N		
WAC: - 610(6)	Has certification of closure been submitted to Ecology?	N		
WAC: -646	Corrective Action. Has there been a release? If so, were any corrective actions taken? Get any documentation.	N		
265 Subpart AA	Air emissions for process vents. Are there process vents per .1030? If yes, is unit subject to requirements?	N		
265 Subpart BB	Air emissions standards and equipment leaks	N		
265 Subpart CC	Air emissions for tanks, containers, and surface impoundments	N		Mixed waste is exempt from Subpart CC requirements.
Specific Requirements				
WAC: - 400(3)(a)	The types of waste management requirements for 40 CFR Subparts for this location include: -Containers (Subpart I) -Tank System (Subpart J) -Containment Building (Subpart DD)			
265 Subpart I	**Use and management of containers**			
265.171	Is container in good condition?	N		
265.172	Is waste compatible with the container?	N		
265.173	Management of containers. Are containers closed? Are the containers managed to prevent rupture?	N		
265.174	Inspections. Are weekly inspections performed?	N		
265.176	Ignitable and reactive waste. Are ignitable and reactive waste 50 feet from Hanford Site property	N		

WAC 173-303 or 40 CFR citation	Requirement	Applies to location for evaluation (Y/N)?	Meets requirement (Y/N)?	Comments
	line			
265.177	Incompatible waste. Are incompatible wastes separated or otherwise protected?	N		
265.178	Is waste managed in compliance with the air emission standards of Subpart AA, BB, and CC?	N		
WAC: -630(3)	Are containers labeled per –630(3)?	N		
WAC: -630(7)	Are containers provided with secondary containment?	N		
265 Subpart J	**Tank Systems**			
265.191	Has an integrity assessment been completed per .191? If so, get copy.	N		
265.191	Is assessment certified by IQRPE per 270.11(d)?	N		
265.192	Are new system components designed and installed per .192? If not, what's missing?	N		
265.193	Is there secondary containment for the tank(s) and ancillary equipment? If so, does it meet .193 requirement? If not, has a request for a variance been submitted .193(h)?	N		
265.194	Are general operating requirements met per .194? List spill prevention controls and overfill prevention controls.	N		
265.195	Are inspections performed per .195? Get copies of last month of inspections.	N		
265.196	Has there been a leak or a spill? What? When?	N		
265.196	Is the tank unfit for use? If so, has criteria of .196 been met?	N		
265.197	Has waste been removed or decontaminated per .197? Is there a closure plan?	N		
265.198 & .199	Is there a clear understanding of what was placed in the tank system? If ignitable or reactive, did it meet ,198 requirements? If incompatible, did it meet .199 requirements?	N		
265.200	Waste analysis and trial tests.	N		
WAC: -640(d)	Are tanks labeled per –640(5)(d)?	N		
265 Subpart DD	**Containment Buildings**			
265.1101	Design and operating. Does the	Y	N	The SERF sealant is in a

WAC 173-303 or 40 CFR citation	Requirement	Applies to location for evaluation (Y/N)?	Meets requirement (Y/N)?	Comments
	containment building comply with the design standards of .1101?			hotcell and the lead is in the basement of the building.
265.1102	Closure and post-closure. Has the matrices been removed or decontaminated?	Y	N	See general discussions regarding closure.

Appendix C – Assessment Scope Planning Notes

Area (324 Bldg.)	Potential Mixed Waste Present?	Waste Matrix Description	Verification Documentation/Process Knowledge	Comments
A-Cell, B-Cell, C-Cell, D-Cell, Hot Cell Airlock, High-Level Vault, Low-Level Vault	NA	NA	324 Building Radiochemical Engineering Cells, High-Level Vault, Low-Level Vault, and Associated Areas Closure Plan, DOE/RL-96-73, Revision 1	These areas are covered under the closure plan and the 324 Treatability Group in the LDR Report. These areas have been identified as non-permitted mixed waste units to be closed per the TPA.
324 RLWS piping system	NA	NA	Personnel interviews.	The piping is part of a 90-day tank system and is therefore not within the scope of the assessment.
324 Process Sewer System	NA	NA	Personnel interviews.	This area is below ground, and therefore not within the scope of this assessment because excavation is not expected within 5 years.
324 Retention Process Sewer System	NA	NA	Personnel interviews.	This area is below ground, and therefore not within the scope of this assessment because excavation is not expected within 5 years..
Engineering Development Laboratory 102	NA	NA	Personnel interviews.	This is a non-radiological area and is therefore not within the scope of this assessment.
High Bay	NA	NA	Personnel interviews.	This is a non-radiological area and is therefore not within the scope of this assessment.
Room 3B, Room 3F, and Storage Vault	NA	NA	Personnel interviews.	This is a non-radiological area and is therefore not within the scope of this assessment.

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Area (324 Bldg.)	Potential Mixed Waste Present?	Waste Matrix Description	Verification Documentation/Process Knowledge	Comments
Waste Water Diverter System, Catch Tank, and Ion Exchange Tank	NA	NA	Personnel interviews.	This is a non-radiological area and is therefore not within the scope of this assessment.
Nitric Acid Bulk Chemical Tank	NA	NA	Personnel interviews.	This is a non-radiological area and is therefore not within the scope of this assessment.
324 Shielded Material Facility (SMF) South Cell	No, but forecasted mixed waste under MLLW-05 was discovered	Lead items; Cell also contains large quantity of non-mixed waste – tools, equipment, etc.	Visual inspection; interviews; reviewed facility inventory provided by PNNL.. Several lead items are listed that do not appear to be utilized as shielding.	Lead appears to be present in the SMF inventory that is not being used for shielding. Cleanout activities in the SMF are expected to commence in FY2003.
324 Shielded Material Facility (SMF) East Cell, Room 139C, and Manipulator Shop	No, but forecasted mixed waste under MLLW-10 was discovered.	Li, Na Samples; Cell also contains large quantity of non-mixed waste – tools, equipment, etc.	Visual inspection; interviews; reviewed MOTA sample inventory provided by PNNL.. Several samples are listed that appear to contain lithium and sodium.	The MOTA sample inventory is not complete. Efforts are underway to provide more characterization data for the samples. Cleanout activities in the SMF are expected to commence in FY2003.
Room 146; Fume Hood and DC Arc Melter	No	Vitrified glass in melter.	Personnel interviews; visual inspection; review of characterization report (BWHC-9850109).	Characterization report was prepared by PNNL and BWHC during period when facility ownership transferred. TCLP of melter contents indicate non-mixed waste.
Shielded Glovebox, Room 3G	No	Floor sweepings; glovebox is otherwise empty.	Visual inspection; personnel interviews.	This area is currently listed in the PMW table in the annual LDR report. This entry should be removed from the PMW table, as the glovebox only contains floor sweepings. In addition, cleanout of this glovebox is a Silver List item and is tied to TPA Milestone M-094-01.

Appendix C – Assessment Scope Planning Notes

Area (327 Bldg.)	Potential Mixed Waste Present?	Waste Matrix Description	Verification Documentation/Process Knowledge	Comments
A-Cell	No	Satellite Accumulation Area for batteries and light bulbs containing lead. Cell also contains empty cans, used equipment, etc.	Visual inspection; SAA are not subject to the LDR storage assessment.	Data sheet exists for forecasted mixed waste matrix in LDR report.
B-Cell	No	Floor sweepings present; cell is otherwise empty.	Visual inspection; personnel interviews.	Efforts are underway to sample and characterize paint chips (floor sweepings) in cell.
327 RLWS piping system	NA	NA	Personnel interviews.	The piping is part of a 90-day tank system and is therefore not within the scope of the assessment.
C-Cell	No	Cell contains a few non-mixed waste items – equipment tools; lead bricks currently being used as rad shielding.	Visual inspection; Personnel interviews.	None.
D-Cell	No	Cell contains large quantity of non-mixed waste items – equipment, tools, lidded cans, etc.	Visual inspection; Personnel interviews; Lidded can inventory review.	Reviewed several lidded can inventory sheets – no mixed waste constituents listed. Most contain miscellaneous high dose rate metal (SS, etc.)
E-Cell	No	Cell contains non-mixed waste items, empty cans, equipment, etc. Under cell are empty isopropyl alcohol tanks; Lead blankets being used for rad shielding are also present.	Visual inspection; Personnel interviews.	None.
F-Cell	No	Cell contains equipment, tools, etc. – non-mixed waste items.	Visual inspection; Personnel interviews.	None.

Appendix C – Assessment Scope Planning Notes

Area (327 Bldg.)	Potential Mixed Waste Present?	Waste Matrix Description	Verification Documentation/Process Knowledge	Comments
G-Cell	No	Cell is empty, except lead bricks being used for rad shielding.	Visual inspection; personnel interviews.	None.
H-Cell	No	Cell contains a few non-mixed waste manipulator parts; Lead bricks being used as rad shielding.	Visual inspection; Personnel interviews.	None.
I-Cell	No	Cell is empty, except lead bricks being used for rad shielding.	Visual inspection; Personnel interviews.	None.
Special Environmental Radiometallurgy Facility (SERF) Cell	No, however the sealant will be included in the location specific data sheet forecast volume for 327 under MLLW-02.	Cell contains a large quantity of non-mixed waste items, empty cans, equipment, etc. Two tubes of sealant were also present.	Visual inspection; Personnel interviews.	One type of Sealant will be managsed as mixed waste; one type was non-mixed, the other a state-only toxic.
Liquid Waste System	No	No waste remaining. System has been drained, flushed, sampled, and isolated. Lead is present on pipes as rad shielding.	Visual inspection; Personnel interviews; Review of sample and analysis data for samples.	The Liquid Waste System has been sampled and shown to be non-mixed. The lead is intregral to the building.
Dry Storage Carousal	No	Storage carousal contains fuel and cladding specimens. No mixed constituents.	Personnel interviews; Review of inventory of remaining fuel pieces in the carousal.	None.
Basement Storage Area	Yes.	No waste noted in this area. Some lead bricks in storage for future rad shielding.	Visual inspection; Personnel interviews.	The lead will be added to the potential mixed waste table because it is not being used.

Appendix C – Assessment Scope Planning Notes

Area (327 Bldg.)	Potential Mixed Waste Present?	Waste Matrix Description	Verification Documentation/Process Knowledge	Comments
Isopropyl Alcohol Tanks	No	Tanks have been removed from under C-Cell. Remaining tanks under E-Cell are empty.	Visual inspection; Personnel interviews.	Tanks are open and empty.
Room #16, Burst Test Basin	No	Test Basin has been drained, the water was sampled, and covered and capped.	Visual inspection; Personnel interviews; Sample and Analysis data review.	Sample and analysis data and subsequent designation indicate water was non-mixed.
Wet Storage/Transfer Basin	No	Basin contains activated stainless steel from FFTF; Empty fuel tubing; Ion exchange columns.	Visual inspection; Personnel interviews; Review of sample and analysis data for ion exchange media.	None.
Room #20, Decontamination Room with Ultrasonic Sink and Fume Hood	No	Empty sink and other equipment; Fume hood contains bagged non-mixed waste items	Visual inspection; Personnel interviews.	None.
Low Level Waste Compactor in Truck Lock	No	No mixed waste noted in this area.	Visual inspection; Personnel interviews.	Operating procedures and operator visual verification ensure no mixed waste is introduced into the low level waste compactor.
Ventilation System in Basement	NA	NA	Personnel interviews.	The ventilation system is integral to the building and is therefore beyond the scope of this assessment.