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ENGINEERING DATA TRANSMITTAL

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RLA Room 20 Cleanout and Stabilization

J. E. Ham

Babcock & Wilcox Hanford Company, Richland, WA 99352
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Abstract: This engineering report documents the decontamination and stabilization of the Rupture Loop Annex located in room 20 of the 309 building's Plutonium Recycle Test Reactor. Low level, mixed, and recyclable waste was removed from the room. Smearable contamination was removed and/or fixed in place with paint. The RLA was cleaned out and stabilized to meet the Environmental Restoration Contractor's turnover criteria.

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ADVANCED FUEL FACILITIES TRANSITION

RLA Room 20 Cleanout and Stabilization

Author

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Date Published

June 1997

Babcock & Wilcox Hanford Company
Plutonium Recycle Test Reactor
Richland, Washington

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EXECUTIVE SUMMARY

This report documents the stabilization of an underground room called the Rupture Loop Annex (RLA), formerly known as the Fuel Element Rupture Test Facility (FERTF). The RLA is located in room 20 of the 309 Building within the 300 Area and is part of the Plutonium Recycle Test Reactor (PRTR). The PRTR has been declared surplus by the U.S. Department of Energy (DOE) and is scheduled for transition to decontamination and decommissioning (D&D). Advanced Fuel Facilities Transition (AFFT) of Babcock & Wilcox Hanford Company (BWHC) is responsible for the transition to the Environmental Restoration Contractor (ERC).

The RLA housed the cooling system which was part of an experimental test loop that tested intentionally defected fuel in the reactor. The process was shut down and deactivated in the 1960s. The RLA consists of three interconnecting rooms: a machinery room, sample cell, and sample room, all exhausted through a High Efficiency Particulate Air (HEPA) filter. Characterization of the room (Cornwell & Hale 1996) indicated radiologically contaminated surfaces, equipment, and piping. Low level radiologically contaminated liquids were also found in machinery, piping, and a sump. The RLA also contained hazardous materials such as lead and mercury, and miscellaneous tools, equipment and waste.

In 1997, the RLA was cleaned out, decontaminated and stabilized in preparation for building turnover. Cleanout of the RLA entailed preparing, removing, packaging, and positioning liquid, solid, and mixed waste. Approximately 757 liters (200 gallons) of slightly radiologically contaminated, nonhazardous water was removed from the sump and process piping and shipped for disposal. About 1,614 kg (3,560 lbs) of low level solid waste, 862 kg (1,900 lbs) of recyclable, and 544 kg (1200 lbs) of mixed waste were also removed and disposed.

Decontamination included the removal of radiologically contaminated water and oil, and the removal of smearable contamination by wipe-down and HEPA vacuum. Stabilization was obtained by sealing process pipe openings and applying a paint fixative to remaining radiologically contaminated surfaces. Decontamination and stabilization efforts reduced the RLA smearable contamination levels to < 1,000 dpm/100 cm² beta-gamma and less than detectable alpha. Also, the RLA exhaust stack, 309-RTF-EX, was shut down and sealed.

All of the criteria for turnover of this room have been met with the exception of Criteria # 28 (Cornwell 1996), due to rain water leaking through an expansion joint between two walls. Plans to repair the leak have been made and the work is scheduled for FY 1998.

Stabilization of the RLA was performed safely and without incident. The task was officially completed on May 27, 1997, finishing three months prior to the DOE Richland Field Office (DOE-RL) Milestone # B79-97-901 date of September 05, 1997 (Hulvey 1996).

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ACRONYMS AND ABBREVIATIONS

AFFT	Advanced Fuel Facilities Transition
BWHC	Babcock & Wilcox Hanford Company
cm ²	centimeters squared
cpm	counts per minute
D&D	Decontamination and Decommissioning
DOE	U. S. Department of Energy
DOE-RL	DOE Richland Field Office
dpm	disintegration per minute
ERC	Environmental Restoration Contractor
FCA	Fixed Contamination Area
FERTF	Fuel Element Rupture Test Facility
HEPA	High-Efficiency Particulate Air
hr	hour
kg	kilogram
ml	milliliter
mrem	milli-rem
PRTR	Plutonium Recycle Test Reactor
RCA	Radiologically Controlled Area
RCT	Radiological Control Technician
rem	Roentgen-equivalent man
RLA	Rupture Loop Annex
RSR	radiation survey report
RWP	radiation work permit

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1.0 INTRODUCTION

1.1 OBJECTIVE

This report documents the cleanout and stabilization of the Rupture Loop Annex (RLA), formerly known as the Fuel Element Rupture Test Facility (FERTF), in the 309 Building. The RLA, located in room 20, is part of the Plutonium Recycle Test Reactor (PRTR) which has been declared surplus by the DOE and is scheduled for transition to D&D. This supporting document provides details of the activities taken to properly cleanout and stabilize the RLA in preparation for turnover to the Environmental Restoration Contractor (ERC) as described in the *309 Building D&D Criteria Completion Checklist* (Cornwell 1996).

1.2 WORK SCOPE

Cleanout and stabilization of the RLA occurred in two phases. The first phase was the housekeeping. This involved the packaging and removal of loose equipment and debris. Tables, tools, wood, plastic, metal, dirt, lead, and mercury were packaged and removed during housekeeping. The second phase was the decontamination and stabilization of the RLA. Decontamination was performed by removing radiologically contaminated water and oil, and by removing radiological contamination with damp rags and a HEPA vacuum. Stabilization included the sealing of open pipes, holes or cracks, and the application of paint as a fixative. A detailed work description is provided in work package 3B-96-00155/W. Work Package 3B-97-00017/W documents the electrical deactivation and sealing of the RLA's exhaust fan and stack, 309-RTF-EX. All non-essential electrical connections and equipment were also deactivated and documented.

1.3 BACKGROUND

The RLA is an underground room located northwest of the 309 Building PRTR containment dome within the 300 Area (Figure 1). The 300 Area is located within the Hanford Site on the west bank of the Columbia River approximately 1.6 river km (1 river mile) upstream and 1.6 road km (1 road mile) north from the City of Richland, in Washington state. The PRTR was

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completed in early 1960 as the operating test reactor in the Hanford Works Plutonium Fuels Utilization Program. Criticality was achieved in October 1960, and full power was reached in May 1961. In 1963, operations of the Fuel Element Rupture Test Facility (FERTF) in the RLA began. The FERTF was a pressurized, light-water-cooled loop which used one of the 85 process tubes within the PRTR calandria to test pre-defective fuel elements.

The RLA (room 20) was used to house the cooling system process piping and pumps for the FERTF systems. It included a machinery room, a sample cell, and a sample room (Figure 2). The machinery room contained process tanks, chemical tanks, emergency cooling pumps, primary pumps, electrical switch gear, and a HEPA filtered exhaust fan. The sample cell contained a process tank, cooling system piping, and a sump for collecting process liquid. The sample room contained equipment for sampling and monitoring the process cooling liquid.

The RLA has been deactivated for almost 30 years. The RLA was completed in 1963 and was deactivated in 1969, along with the rest of the reactor. Over the years, much of the process equipment (including anion, cation, and mixed bed resin columns) and the large motors that drove the primary coolant pumps (along with their motor controllers) were removed. The decontamination tank, the sample hood, the air handling pumps and lines were also removed. All of the rupture loop equipment inside the reactor dome and the waste hold up tank originally located northeast of the reactor was removed, and most recently, the RLA ion exchange vault was cleaned out and stabilized (Ham 1996).

Figure 1 RLA Location.

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Figure 2 RLA Rm 20

During original deactivation in 1969 the entire cell and part of the drainage trench in the machinery room were painted for contamination control. In 1996 the RLA was characterized, by taking chemical and radiological samples, but no further stabilization work was done at that time.

A more thorough background discussion and report of conditions at the beginning of the characterization activities can be found in the *Rupture Loop Annex, Physical Examination and Process Knowledge Summary* (Cornwell & Hale 1996). This summary includes the original (1969) deactivation procedures for RLA equipment and systems, a description of characterization activities, the tool and equipment inventories, the sample result reports, and the transuranic concentration estimates for the RLA.

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2.0 DESCRIPTION

2.1 RLA CLEANOUT

General housekeeping work in the RLA was performed in accordance with work package 3B-96-00155/w (See facility turnover file). It included removal of low level, hazardous, and non-hazardous material. Hazardous materials consisted of lead and mercury. Non-hazardous debris included tools, equipment, scrap material, and sand from the sample room floor. Photographs of the RLA activity are shown in Appendix A.

The lead, which was in the form of pigs, bricks and sheets, was used for shielding of instruments and equipment. Some of the lead was slightly radiologically contaminated. Some was corroded so badly that it was impossible to free release because of the possibility of contamination being shielded and hidden in the rough surface. Lead that was either contaminated or otherwise unable to be free released was designated as mixed waste. Many of the lead bricks were smooth and could be surveyed, and many of them were free released.

The only mercury in the room was in two level switches attached to the primary coolant tank, RLT-1. The mercury (approximately 10 ml total) was encapsulated in glass vials, one for each switch. The vials were removed and free released.

All other loose debris was loaded into 4'x4'x4' plywood burial boxes. Because of the nature of the RLA and its operations everything was considered to be potentially contaminated. Because of material composition (wood, paper, or other porous material) or its configurations (complicated shapes, unaccessible internal surfaces), debris items could not be free released. Also, many of these items had fixed contamination. Appendix C provides a list of the low level items that were removed during cleanout. It should be noted that the inventory sheets for the two boxes are not included. This is because the originals will not be complete until shipment is made.

The sample room had a leak in one corner. Over the years the water leaking into the room carried in a fairly large amount of sand (~220 lbs). The sand was removed as part of the cleanout activities.

309 BUILDINGADVANCED FUEL FACILITIES TRANSITION **2.2 RLA DECONTAMINATION & STABILIZATION**

Decontamination and stabilization activities removed all liquids and as much contamination as feasible. To prevent the risk of spreading material and contamination, openings and cracks in the process pipes and room structure were sealed and a paint fixative was applied to equipment, floors and walls.

The liquids removed from the RLA consisted of oils left in machinery reservoirs and water found in the drainage trench sump, which collected rain water from leaks in the sample room wall. Machinery oils were divided into two radiologically contaminated, mixed waste streams based on hazardous constituents. The oils were drained or pumped from the equipment and segregated according to their designated waste stream.

Water was primarily contained in the trench sump. Water in the sump was pumped directly into waste drums using small, disposable pumps. There was some flush water left in some of the pipes from when the loop was cleaned out in 1969. The pipes with water in them were identified using an ultrasonic technique. Three slits were cut into the wet pipes, using a three wheeled pipe cutter, and the water was drained out. After the water drained out of the pipes, the slits were taped over to prevent migration of any contamination inside them. Two check valves were dismantled and water pumped out of them. The valves were reassembled after the water was removed, and the valve joints were taped over to prevent migration of any contamination inside them.

Loose contamination was removed using two different techniques. Since there were areas of significant contamination, these areas were wiped down with wet rags until they were either no longer smearable or were only slightly smearable. Because of low level general area contamination, dust and dirt from the entire room was removed with a HEPA-filtered vacuum cleaner.

Stabilization of the room required the use of a pipe plug, duct tape, caulking, and paint. The sump's sewer discharge pipe, which was previously disconnected from the pump and deactivated outside the building, was plugged with a rubber expansion plug. Flanges up to eight feet off the floor, and some pipe openings, were wrapped with duct tape to prevent the migration of inaccessible contamination. Caulking was used on the exterior of some pipe joints.

Caulking was also used to fill a crack in the southwest corner of the sample room at an

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expansion joint between two walls. During times of heavy rain or snow melt water leaked into the sample room. The sample room has a small line that drains to the trench sump in the cell, so water that entered the sample room ended up in the sump. To slow or stop further intrusions, the crack was caulked. As a further measure to prevent water from coming into the sample room, tentative plans have been made for flashing and paving to be installed over the room. The asphalt paving and the flashing could direct rain and snow melt runoff to ground far enough away from the building that it would not leak into the RLA.

Any smearable contamination remaining after decontamination was painted over with yellow paint. Yellow paint was selected to alert future work crews of the areas where contamination was fixed in place. Painted areas included the instrument rack and parts of the trench in the machinery room, inside the hoods over the primary coolant pumps, and the entire sample cell up to the ceiling, including the trench and sump. The final survey (Appendix B) found $< 1,000$ dpm/100 cm² smearable beta-gamma and less than detectable smearable alpha in the RLA, including the areas painted for contamination stabilization. Due to the nature of the RLA operations and contamination risk from the remaining pipes and flanges, it was decided to leave the room a contamination area and not establish it as a fixed contamination area.

Once cleanup activities in the RLA were complete, the exhaust fan and all non-essential equipment were electrically deactivated, and the stack, 309-RTF-EX, was sealed with a plug.

3.0 RESULTS AND DISCUSSION

3.1 RLA FINAL INSPECTION

The RLA, at the end of the work described in this report, is radiologically, chemically, and physically stable. See Appendix A for photographs of the RLA at the end of stabilization activities. All known contamination sites have been removed or fixed with paint such that the levels are $< 1,000$ dpm/100 cm² smearable beta-gamma and less than detectable smearable alpha (See Appendix B). All radiological and hazardous materials have been removed and dispositioned. The wall in the sample room has been caulked and plans have been made for paving the ground over the RLA where it connects to the PRTR dome.

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3.2 RLA WASTE DISPOSITION

The following waste types were generated during cleanup and stabilization: low level radiological waste, non-radiological/hazardous waste, and mixed waste. Approximately 1614 kg (3560 lbs) of low level radioactive waste was packaged in two lined 4'x4'x4' plywood boxes and are awaiting shipment to the low-level burial grounds. Also, 757 liters (200 gallons) of low level water was packaged into bung drums and sent to the 340 Waste Handling Facility.

Hazardous wastes consisted of 862 kg (1900 lbs) of lead and two small vials (~ 10 ml) of mercury which were free released and recycled.

Mixed wastes consisted of about 363 kg (800 lbs) of radiologically contaminated lead and 181 kg (400 lbs) of contaminated oil. The lead was deposited into a lined 55 gallon galvanized drum and the oil was placed into 15 gallon containers and "lab packed" into 55 gallon galvanized drums. All of the mixed waste has been shipped to the Central Waste Complex. See Appendix C for inventory sheets and Appendix D for shipping documents of the shipped waste.

The RLA cleanout and stabilization activities were performed safely and without injury or personnel contamination. The task was also completed three months prior to the DOE-RL Milestone #B79-97-901 (Hulvey 1996).

4.0 CONCLUSION

Upon final survey, < 1,000 dpm/100 cm² smearable beta-gamma and less than detectable smearable alpha was detected. However, the room remains a contamination area due to the internally contaminated contents of the room. Final inspection of the room shows that all the criteria for turnover associated with the RLA have been met with the exception of Criteria # 28 (Cornwell 1996) which states "Repair all known facility roof leaks and/or deteriorated roof panels to assure roof integrity for at least five years." After completion of the paving and flashing work and establishing that leaks no longer occur, the RLA will be stable and ready for completion sign-off of the Criteria Checklist (Cornwell 1996) by facility management and the ERC organization.

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5.0 REFERENCES

- Cornwell, B. C., 1996, *309 D&D Criteria Completion Check List*, WHC-SD-NEL-RD-001, Revision 0, Westinghouse Hanford Company, Richland, Washington.
- Ham, J. E., 1996, *Rupture Loop Annex Ion Exchange (RLAIX) Vault Deactivation*, WHC-SD-NEL-ER-004, Revision 0, Westinghouse Hanford Company, Richland, Washington.
- Hulvey, R. K., 1996, *Advanced Reactors Transition Fiscal Year 1997 Multi-Year Program Plan WBS 7.3*, WHC-SD-FF-SSP-052, Revision 2, Program WBS Designator #7.3.1.4.9, Westinghouse Hanford Company, Richland, Washington.
- Cornwell, B. C. and N. S. Hale, 1996, *Rupture Loop Annex Physical Examination and Process Knowledge Summary*, WHC-SD-NEL-ER-005, Revision 0, Babcock & Wilcox Hanford Company, Richland, Washington.
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APPENDIX A - PROJECT PHOTOGRAPHS

Note: The following photographs (and others) can be found in the facility turnover file. See photograph series #s 96050319, 96050456, 96080599, 97040252, and Polaroids.

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Figure A-1. Lead shielding and waste found in the machinery room.

Figure A-2. Machinery room after the lead and waste has been removed.

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Figure A-3. A tool rack in the machinery room held many tools.

Figure A-4. Only tools needed for other deactivation work remains after housekeeping.

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Figure A-5. Huge process pumps in the machinery room were drained of oil.

Figure A-6. Contaminated hoods were fixed with paint.

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Figure A-7. Contamination was found in the machinery room trench.

Figure A-8. Paint was applied to fix the contamination.

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Figure A-9. A crack in the sample room wall allowed water and dirt to enter the room.

Figure A-10. The dirt was removed and the crack filled with caulking.

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Figure A-11. Lead pigs and bricks were also found in the sample room.

Figure A-12. The lead was removed and recycled.

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Figure A-13. Areas of the sample cell had contamination on the walls, piping and in the trench.

Figure A-14. These areas were decontaminated and fixed with paint.

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Figure A-15. The sump located in the sample cell collected about 757 liters (200 gallons) of water from the crack in the sample room wall.

Figure A-16. The liquid was removed from the sump. Then it was decontaminated and painted.

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Figure A-17. One of two mercury switches located in the sample cell.

Figure A-18. Both mercury vials were removed and recycled.

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APPENDIX B - RADIOLOGICAL SURVEY REPORT

Note: Pages 4,6, and 8 of radiological survey report R000114 are not included in this appendix because they are blank pages and contain no information.

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Westinghouse Hanford Company - Radiological Control RADIOLOGICAL SURVEY REPORT						Survey No. R000114				
Date 03/13/1997		Time 0900-1600		RWP No.(s) R-195		Page 1 of 10				
Area/Bldg./Room/Location (Code) 300 AREA / 309 BLDG. / 247PCE LOOP						F.C. R				
Job Description CHARACTERIZATION SURVEY OF 247PCE LOOP AFTER ROOM CLEANUP						Purpose of Survey (check appropriate box(es)): Contamination Incident: ☐ Skin, ☐ Clothing, ☐ Spill Alarm Response: ☐ CAM, ☐ ARM(ARM), ☐ PSD ☐ HRA/VHRA Work ☐ Job Coverage ☒ Other ☐ Exposure Incident ☐ Material Release ☐ RM Transfer/Shipments ☐ Required, Task No.				
Map/Sketch <i>SEE ATTACHED MAPS.</i> INFORMATION ONLY										
No.	Description	Dist.	DOSE RATES			CONTAMINATION LEVELS				
			$\dot{H}$ (non-pen) mrad/h	$\dot{H}$ (pen) mR/h	$\dot{H}$ mrem/h	Total (1/100 cm ²)		Removable (1/100cm ²)		
			$\dot{H}$ (dpm)	$\dot{H}$ (dpm)	$\dot{H}$ (dpm)	$\dot{H}$ (dpm)	$\dot{H}$ (dpm)	$\dot{H}$ (dpm)	$\dot{H}$ (dpm)	mrad/h
1	RCA AREA							<D	<D	
2	RCA AREA / 10000000							<D	<D	
3	LOOP FRONT RM FLOOR/WALLS							<10000	<D	
4	PIPING							<10000	<D	
5	WALLS OVER MOTORS							<10000	<D	
6	TRENCHES							<10000	<D	
7	INSTANTANEOUS RACE							<10000	<D	
8	LOOP BACK ROOM FLOOR/WALLS							<10000	<D	
9	PIPING							<10000	<D	
10	TANK							<10000	<D	
Continued on page 2										
Air Sample Results (uCi/ml)				Legend						
BZ	GA	Initial	Decay	(1) - Smear Location	(2) - Large Area Smear	(3) - Air Sample Location	(4) - Contact Reading			
01	1									
01	1									
02										
02										
				Other: <i>1/1</i>						
USE LEGEND ON MAPS										

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WHC - Radiological Control RADIOLOGICAL SURVEY REPORT				F.C. R		Page 2 of 10		Survey No. R000114			
No.	Description	Dist.	DOSE RATES			CONTAMINATION LEVELS					
			μrem/hr μSv/hr	mR/h	mrem/h	Total (100 cm ²) μSv	Removable (100cm ²) μSv	μSv	μSv	mrem/h	
11	TRUCKS & SUMP										
12	MAX BOSS IN TRENCH	C 35	5								
13	SAMPLE ROOM FLOOR/WALLS										
14	CAMS & CART										
15	MISC EQUIPMENT										
16	CANRAYS										

Comments

Total <D = 2 inches / sec Removable <D = 1 inches / sec

0.25 inches from item 0.25 inches from item

100 % of item surveyed 100 % of item surveyed

No audible counts above background No audible counts above background

ALL SURFACES W/IN LAB AREA WERE

SEE ATTACHED MAPS FOR DETAILS OF FIELD CONTAMINATION

NO REMOVABLE CONTAMINATION WAS DETECTED DURING SURVEY OF ROOM.

MOST OF THE BACK ROOM WAS PAINTED WITH ONE COAT OF YELLOW PAINT PLUS

IN THE FRONT ROOM THE INSTRUMENT RACK AND A SECTION OF TRENCH.

Samples Counted with portable instruments for 0.25 minutes.

Instr./Probe Model	RD-3B (CP)	E-140/Pancake (GM/Probe)	Surveyor-X w/253 probe (PAM)
Serial No.	10085-0000	CMR01-0281 BTE07-0250	ACH-2-143
Efficiency	100%	10%	15%
Correction Factor	1	10	7

ADDITIONAL REPORTS

RPR No. 1 Sample Counter Log(s) Sample Log R-031557-115

RSR No. 1/2 Contamination - Skin 1/2 Procedure: WHC-SP-0718.1.1

Contamination - Clothing 1/2 Other(s) WORK BACKLOG 28-56-00153/13

HPT: Payroll No.: 95937 First-Line HP Manager: Date: Payroll No.: Name (Print): C. WILSON Name (Print): Signature: Signature: INFORMATION ONLY

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309 BLDG. RUPTURE LOOP

INFORMATION ONLY

SURVEY # R000114 PAGE 3 of 10

RCT: C. WILDMAN *CW*

03/13/1997

HNF-SD-NEL-ER-003 Rev. 0

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

309 BLDG.

Rupture Loop Perimeter

UNOFFICIAL COPY

- Fixed Contamination
- Source Size Appx.

INFORMATION ONLY
All readings in NET DPM/PROBE

Survey # R000114

Page 5 of 10

RCT C. Wildman 03/13/1997

HNF-SD-NEL-ER-003 Rev. 0

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

309 BLDG. RUPTURE LOOP

SEE MAP 309LOOP2.GAI
FOR BACK ROOM INFO

PHOTOCOPYING PERMITTED BY
PAYING THE PER-COPY FEE OF \$0.50
TO THE COPYRIGHT CLEARING CENTER, INC.,
222 ROSS STREET, DANVERS, MA 01923

- Fixed Contamination
- ★ Removable Contamination

FLOOR & WALL SMEARS

- * <1000 DPM B\G
- * <20 DPM A

ALL DIRECT READINGS ARE DPM/PROBE

RCT: C. WILDMAN 03/13/1997

EXPLANATION ONLY SURVEY # R000114 PAGE 7 of 10

HNF-SD-NEL-ER-003 Rev. 0

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

309 BLDG. RUPTURE LOOP

ALL DIRECT READINGS ARE DPM/PROBE

HYDROLOGICAL SYSTEM CW

- Fixed Contamination
- ★ Removable Contamination

- Floor & Wall Shears
- <1000 DPM BIG
- <20 DPM A

RCT: C. WILDMAN 03/13/1997

INFORMATION ONLY

SURVEY # R000114 PAGE 9 of 10

HNF-SD-NEL-ER-003 Rev. 0

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

APPENDIX C - WASTE INVENTORY SHEETS

Note: Copies of the inventory sheets for the two low-level waste boxes combine pages to allow the entire list of waste to be on one page.

ADVANCED FUEL FACILITIES TRANSITION

Page 1 of 1

WASTE STREAM NUMBER

(check one) ☒ New Container; ☐ Used (Empty and Re-usable) Container *Tmc 35163*

[illegible]

1. Contain Closure: Grass Weight: 580 lbs
F.J. Carve Signature [Signature] 3/8/97
 Name (printed)
2. RCT Closure Survey: Removable Surface Contamination: 1200/2 or 1000/2-lbs
 Date
 Date Rate: nt Contact 10.1 at 3 ft. 10.1
C. Wilson Signature [Signature] 3/3/97
 Name (printed)
3. Facility Waste Coordinator Closure Review:
F.J. Carve Signature [Signature] 3/10/97
 Name (printed)
4. Facility Waste Coordinator Final Disposition: (select one option)
 A. ☐ The waste has been removed from this container and...
☐ has been disposed of as sanitary waste since it was determined to not be dangerous or radioactive waste.
☐ has been placed into container number _____ (CIN).
☐ has been accepted by _____ (Generator/TSDF name) as liquid effluent.
 B. ☐ This container has been overpacked into container number _____ (CIN).
 C. ☒ This container has been shipped on RSR or Manifest number 39245 (RSR/Manifest #).
F.J. Carve Signature [Signature] 4/26/97
 Name (printed)

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

309 CONTAINER INVENTORY SHEET

Page 1 of 1

CIN/PIN 96063391

WASTE STREAM NUMBER

(check one) X New Container;

Used (Empty and Re-usable) Containers

Time: 35 16

[illegible]

1. Container Closure: Grass Weight: 500 lbs
F. J. Carr [Signature] 3/8/97
 Name (printed) Signature Date
2. RCT Closure Survey: Removable Surface Contamination: 100% - 1000% per
201 at ft. 20.1
[Signature] 3/8/97
 Name (printed) Signature Date
3. Facility Waste Coordinator Closure Review: [Signature] 3/8/97
F. J. Carr [Signature] 3/8/97
 Name (printed) Signature Date
4. Facility Waste Coordinator Final Disposition: (select one option)
 A. ☐ The waste has been removed from this container and...
☐ has been disposed of as sanitary waste since it was determined to not be dangerous or radioactive waste.
☐ has been placed into container number (CIN).
☐ has been accepted by (Generator/TSD# name) as liquid effluent.
 B. ☐ This container has been overpacked into container number (CIN).
 C. ☒ This container has been shipped on RSK or Manifest number 39245 (RSK/Manifest #).
F. J. Carr [Signature] 4/16/97
 Name (printed) Signature Date

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

309 CONTAINER INVENTORY SHEET

Page 1 of 1

CIN/PIN 5606338 1

WASTE STREAM NUMBER

(check one) ☒ New Container; ☐ Used (Empty and Re-usable) Container TARE = 35 lbs

[illegible]

1. Container Closure: Gross Weight: 500 lbs
F. J. Carr
 Name (printed) Signature [Signature] Date 3/1/97
2. RCT Closure Survey: Removable Surface Contamination: <107 10007/p2
 Dose Rate: at Contact <0.1 at 3 ft. <0.1
C. [Signature]
 Name (printed) Signature [Signature] Date 2/8/97
3. Facility Waste Coordinator Closure Review:
F. J. Carr
 Name (printed) Signature [Signature] Date 3/1/97
4. Facility Waste Coordinator Final Disposition: (select one option)
 A. ☐ The waste has been removed from this container and...
 • ☐ has been disposed of as sanitary waste since it was determined to not be dangerous or radioactive waste.
 • ☐ has been placed into container number _____ (CIN).
 • ☐ has been accepted by _____ (generator/TSDF name) as liquid effluent.
 B. ☐ This container has been overpacked into container number _____ (CIN).
 C. ☒ This container has been shipped on RSK or Manifest number 39248 (RSK/Manifest #).
F. J. Carr
 Name (printed) Signature [Signature] Date 3/1/97

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

309 CONTAINER INVENTORY SHEET

Page 1 of 1

CIN/PIN 94055581

WASTE STREAM NUMBER

(check one) X New Container;

Used (Empty and Re-usable) Containers

Total 13.1 kg (29 lbs)

[illegible]

1. Container Closure: Gross Weight: 270 lbs
Name (printed): F. J. Carve Signature: [Signature] Date: 3/8/97
2. RCT Closure Survey: Removable Surface Contamination: <20 dpm at 100 cm / 100
Dose Rate: at Contact 0.1 at 3 ft. 0.1
Name (printed): C. Williams Signature: [Signature] Date: 3/8/97
3. Facility Waste Coordinator Closure Review:
Name (printed): F. J. Carve Signature: [Signature] Date: 3/8/97
4. Facility Waste Coordinator Final Disposition: (select one option)
A. ☐ The waste has been removed from this container and...
• ☐ has been disposed of as sanitary waste since it was determined to not be dangerous or radioactive waste.
• ☐ has been placed into container number _____ (LIN).
• ☐ has been accepted by _____ (generator/TSDF name) as liquid effluent.
B. ☐ This container has been overpacked into container number _____ (LIN).
C. ☒ This container has been shipped on RSK or Manifest number 39248 (RSK/Manifest #).
Name (printed): F. J. Carve Signature: [Signature] Date: 4/24/97

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

309 CONTAINER INVENTORY SHEET

Page 1 of 1

CIN/PIN 9608221 /

WASTE STREAM NUMBER 800-00

(check one) ☒ New Container; ☐ Used (Empty and Re-usable) Container

[illegible]

1. Containter Closure: Gross Weight: 785 lbs / 557 Kg Net: 32.75
F. J. Carrin
Name (printed) Signature Date 1/28/97
2. RCT Closure Survey: Removable Surface Contamination: 420 Bq m² 1099 dpm BS
Date
Date Rate: nt Contact 4.61 nt 3 ft. 4.61
C. Williams
Name (printed) Signature Date 3/26/97
3. Facility Waste Coordinator Closure Review: F. J. Carrin
Name (printed) Signature Date 3/16/97
4. Facility Waste Coordinator Final Disposition: (select one option)
A. The waste has been removed from this container and...
• has been disposed of as sanitary waste since it was determined to not be dangerous or radioactive waste.
• has been placed into container number (CIN).
• has been accepted by (generator/TSDF name) as liquid effluent.
B. This container has been overpacked into container number (CIN) 9/27/97
C. X This container has been shipped on RSK or Manifest number 708845 (RSK/Manifest #).
F. J. Carrin
Name (printed) Signature Date 5/27/97

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

309 CONTAINER INVENTORY SHEET

Page 1 of 1

CIN/PIN 9700878 /

WASTE STREAM NUMBER 404-04

(check one) New Container:

Used (Empty and Re-usable) Container

THREE: 65 lbs. (29.5 kg)

[illegible]

1. Containing Closure: Gross Weight: 20.2 lbs. (9.15 kg) NET 12.8 lbs (5.8 kg) 4/1/97
F.T. Curran
Name (printed) Signature Date
2. RCT Closure Survey: Removable Surface Contamination: 4.20 dpm 100cm²/ft
4/1/97
Date
Dose Rate: at Contact 40.1 mR/hr at 3 ft. 40.1 mR/hr
C. Swindan
Name (printed) Signature Date
4/1/97
3. Facility Waste Coordinator Closure Review:
F.T. Curran
Name (printed) Signature Date
4/1/97
4. Facility Waste Coordinator Final Disposition: (select one option)
A. ☐ The waste has been removed from this container and...
• ☐ has been disposed of as sanitary waste since it was determined to not be dangerous or radioactive waste.
• ☐ has been placed into container number _____ (CIN).
• ☐ has been accepted by _____ (generator/TSDF name) as liquid effluent.
B. ☐ This container has been overpacked into container number _____ (CIN) 5/22/97
C. ☒ This container has been shipped on RSM or Manifest number 70554 (RSM/Manifest #) 5/22/97
F.T. Curran
Name (printed) Signature Date
5/22/97

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

309 CONTAINER INVENTORY SHEET

Page 1 of 1

CIN/IN 97009051

WASTE STREAM NUMBER 404-06

(check one) ☒ New Container;

Used (Empty and Re-usable) Container

TARE: 6.5 lbs. (29.5 L)

INITIALS (operator and sign)	DATE (mm-dd-yyyy)	QUANTITY (# volume or containers)	WEIGHT (lb.)	WASTE DESCRIPTION
L	4/1/97	4	16.7 lbs. 7.6 kg	Roadpad + 90-mil liner
L	4/1/97	25	13.8 lbs. 6.3 kg	Universal Polypropylene
L	4/1/97	40	125.4 lbs. 56.9 kg	Inner drum 9701392 containing waste oil (gross 125.4 lbs., net 109 lbs.)
L	4/1/97	30	4.3 lbs. 2.5 kg	Universal Polypropylene
L	4/1/97	1	1 lb. .5	1 Hazcat screening Kit (field)
				Pumped out of 9405894 into 9701392. This container is in Lab Pack Form

1. Container Closure: Gross Weight: 236.2 lbs (107.3 kg) Net: 171.2 lbs (77.8 kg)
F.J. Carver
Name (printed) Signature Date 4/1/97
2. ECT Closure Survey: Removable Surface Contamination: 20 dpm 100 dpm
Dose Rate: at Contact 20.1 mR/hr at 3 ft. 20.1 mR/hr
G. W. Brown
Name (printed) Signature Date 4/1/97
3. Facility Waste Coordinator Closure Review: F.J. Carver
Name (printed) Signature Date 4/2/97
4. Facility Waste Coordinator Final Disposition: (select one option)
A. ☐ The waste has been removed from this container and...
• has been disposed of as sanitary waste since it was determined to not be dangerous or radioactive waste.
• has been placed into container number _____ (CIN).
B. ☒ This container has been accepted by _____ (generator/TSDI name) as liquid effluent.
C. ☒ This container has been overpacked into container number _____ (CIN) 5/27/97
X This container has been shipped on RSM or Manifest number 7000452 (RSM/Manifest #) 5/27/97
- F.J. Carver
Name (printed) Signature Date 5/27/97

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

309 CONTAINER INVENTORY SHEET

Page 1 of 1

CIN/IN 9700924 1

WASTE STREAM NUMBER 444-08

(check one) ☒ New Container; ☐ Used (Empty and Re-usable) Container

Time: 65 lb, (29.5 kg)

INITIALS (operator and engineer)	DATE (month/day/year)	QUANTITY (# volume of material)	WEIGHT (lb)	WASTE DESCRIPTION
L	4/1/97	7	$\frac{16.7 \text{ lbs.}}{7.6}$	Roadbed + 90-mil Liner
L	4/1/97	25	$\frac{13.5}{6.1}$	universal polypropylene
L	4/1/97	40	$\frac{99.5 \text{ lbs.}}{42.3}$	down ⁹⁷⁰¹³⁹³ 97006 containing waste v.1 (gross 99.5 lbs, net 83.1 lbs.)
L	4/1/97	31	$\frac{13 \text{ lbs.}}{5.9}$	universal polypropylene
Pumped out of 9405894 into 9701393. This container is in lab pack form.				

1. Container Closure: Gross Weight: 207.7 lb (94.4 Kg) NET: 142.7 lb (64.9 Kg)
Name (printed): F.J. Caruso Signature: [Signature] Date: 4/1/97
2. RCT Closure Survey: Removable Surface Contamination: <201-uc <1000-2R
Date Date: at Contact <201-uc at 3 ft. <201-uc
Name (printed): C. [Signature] Signature: [Signature] Date: 4/1/97
3. Facility Waste Coordinator Closure Review:
Name (printed): F.J. Caruso Signature: [Signature] Date: 4/2/97
4. Facility Waste Coordinator Final Disposition: (select one option)
A. ☐ The waste has been removed from this container and...
• has been disposed of as sanitary waste since it was determined to not be dangerous or radioactive waste.
• has been placed into container number _____ (CIN).
• has been accepted by _____ (generator/RSDF name) as liquid effluent.
B. ☐ This container has been overpacked into container number _____ (CIN) 522/97
C. ☒ This container has been shipped on RSR or Manifest number 40555 (RSR/Manifest #)
Name (printed): F.J. Caruso Signature: [Signature] Date: 5/22/97

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

309 CONTAINER INVENTORY SHEET

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CINTEIN 97009251

WASTE STREAM NUMBER 404-00

(check one) ☒ New Container; ☐ Used (Empty and Re-usable) Container **TAKE: 1.5 lbs. (29.5 kg)**

[illegible]

1. Container Closure: Gross Weight: 233 lbs. (104.5 kg) Net: 165.3 (75.3 kg)
 Name (Printed): F.J. Curran Signature: [Signature] Date: 4/1/97
2. RCT Closure Survey: Removable Surface Contamination: 200 uCi/cm²
 Date: _____
 Dose Rate: at Contact: 0.1 mSv/hr at 3 ft: 0.01 mSv/hr
 Name (Printed): C. Williams Signature: [Signature] Date: 4/1/97
3. Facility Waste Coordinator Closure Review: F.J. Curran Signature: [Signature] Date: 4/2/97
4. Facility Waste Coordinator Final Disposition: (select one option)
 A. ☐ The waste has been removed from this container and...
 • ☐ has been disposed of as sanitary waste since it was determined to not be dangerous or radioactive waste.
 • ☐ has been placed into container number _____ (CIN).
 • ☐ has been accepted by _____ (generator/TSDF name) as liquid effluent.
 B. ☐ This container has been overpacked into container number _____ (CIN) 4/2/97
 C. ☒ This container has been shipped on RSK or Manifest number 70045-2 (RSK/Manifest #).
 Name (Printed): F.J. Curran Signature: [Signature] Date: 5/27/97

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309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

309 CONTAINER INVENTORY SHEET

Continuation Page

Page ___ of ___

CIN/PIN 1309-99-00001

WASTE STREAM NUMBER

WASTE DESCRIPTION	WASTE DESCRIPTION
METAL CABINET (18 X 24 X 48)	PHRIFURN 60 LBS
FUNNEL	(1) HATCH SAW
MISC. WIRE/ROPE	(10) LOS MISC TOOLS
METAL CABINET (18 X 18 X 48)	(1) PLASTIC BUCKET
METAL SIGN	(1) TUN COLE ALONG
(2) WIRE BUCKLES (8 X 8 X 10)	(2) WIRE BUCKLES DP 32
WIRE 1 X 1/4 X 8	(2) TUBING ARMATURES
WIRE 1 X 1/4 X 8	(1) GAS OUTLET GAS
WIRE 1 X 1/4 X 8	(1) VICE GRIP
WIRE 1 X 1/4 X 8	(1) C-CLAMP
METAL PLATE	(1) JUMP BOX WITH WIRE 6 X 42 X 42
METAL RODS (20)	(10) LOS MISC TOOLS
MISC. METAL OBJECTS	(3) GALVANIZED BUCKET
METAL PLATE 1/2 X 1 X 48	(1) DUST PAN
PIPE 1 1/2 X 5/8	(1) SCRAP
FLAT BAR 1/2 X 1/2	(1) ELECTRICAL PANEL COVER
1 FILE (METAL)	(3) 1/2 X 1 X 8 FLAT BARS
MISC. AIR HOSES (4-25 FT)	(1) BRONZE BOX WITH BRACKET
PANEL BARS (5)	(1) VOLT METER
2 METAL RODS 1 1/2 X 1/2	(1) CHART RECORDER
1 FUEL SHIELD	(1) BOUND MIRROR
1 PRESSURE INDICATOR GAUGE	(1) EXTENSION CORD (25 FT)
4 METAL MOTOR COUPLINGS	WELDING CABLES
15 1 X 1/4 ALUM	6 FT BRACING STRIPS
1 STRAP WRAPCH	(1) FLAT PLATE 1/2 X 6 X 6
1 GAS VALVE	(1) VALVE ASSY
2 9 FT CHUCKS	(1) DRAWER MISC SLAP METAL (70 LBS)
	(1) HAND PILES
	40 FT COPPER FUSING
	(1) MOTOR
	(25 FT) POWER CORD
	(2) HATCH SAW DETECTORS (BROWN IRONIC)
	(1) WIRE DETECTOR
	MISC COPPER TUBING (1/2 X 3 FT)
	(1) BRAIN HED
	6 FT DRIVE PILE
	FLAME COVER 4" Ø
	MISC RAG WASTE
	(1) LIGHT SHIELD
	(1) METAL BRACKETS
	(1) 3 FT L6 CONDUIT 1/2" Ø
	SAVED TOOLS
	(1) AIR SAMPLER
	7 LBS RAG SCRAP
	(2) CABLE COVERS
	(1) 1/2 X 1 X 6 FT METAL STRAP
	(2) METAL U-BOLTS 3/4 Ø RING STEEL (10 LBS)
	4 FT ROPE
	(1) BRACK
	(1) PUSH-BROOM
	(1) METAL COUPLING SHIELD
	CRASHBAG, PLASTIC, AND PAPER

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

Page 1 of 2

WASTE STREAM NUMBER STEP-4FF P410

(check one) ☐ New Container; ☐ Used (Empty and Re-usable) Container

INITIALS (Printed and signed)	DATE (mm/dd/yyyy)	QUANTITY (# & volume of containers)	WEIGHT LB	WASTE DESCRIPTION
L	1/28/97			30 LBS WOOD 6" Ø PIPE - 15 FT (1) HYDRAULIC JACK (1) GUNNIE GUN (1) 8 FT ALUMINUM LADDER (CUT-UP) (1) 4 FT ALUMINUM LADDER (CUT-UP) 5 LBS NUTS AND BOLTS 3 FT CHAIN SCRAP ALUMINUM 15 LBS SCRAP METAL 30 LBS (2) FOX TAIL BRIDGES, STEEL GRATING 4' X 4' (2) PALE SAWHOS 8 FT METAL ROD (CUT-UP) 1/2" Ø 1 1/2" Ø PIPE 42" LG (2) STEEL MOUNT COVERS (1) HANO TRUCK (CUT-UP) (1) MUD HORN (2) VICE (2) METAL CRANES 25 FT EXTENSION CORD 2 1/2" Ø PIPE 12 FT (1) METAL CLIPPERS HANDMAN (1) WELDING CART (STEEL) (1) 5 FT 45 FLEX HOSE (1) 1 1/2" Ø 33 FME 4 FT LG (1) METAL TRAINING TROLLEY (1) 2 FT METAL STRUT (1) 4 FT WOOD LADDER (CUT-UP) (1) SAW BLADE (1) MUD BUCKET (GALVANIZED) (1) PLASTIC FUNNEL (1) PLASTIC 5 GAL BUCKET (1) PLASTIC BAG (1) 4 FT SID LAMBER 25' extension cord Roll dust tarp
f	1/28/97			

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309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

APPENDIX D - WASTE SHIPPING DOCUMENTS

Note: The shipping records for the two low-level waste boxes are not included in this appendix because they are awaiting shipment. Once the waste is shipped, they will be included in the facility turnover file.

HNF-SD-NEL-ER-003 Rev. 0

309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

RADIOACTIVE SHIPMENT RECORD				3. Page 1 of 2	39248																					
1. SHIP TO Company: <u>Rust Federal Services</u> Address: <u>340 Ridge / 300 Ave</u> City, State, Zip: <u>Richland, WA 99352</u> Attention: <u>Steve Garnett</u> Phone: <u>376-6857</u>		2. SHIP FROM U.S. DEPT. OF ENERGY C/O Company: <u>WDC</u> Address: <u>340 Ridge / 300 Ave</u> City, State, Zip: <u>Richland, WA 99352</u> Contact: <u>Steve Garnett</u> Phone: <u>376-8724</u>		4. Ship ☒ Prepaid ☐ Collect Via ☐ Motor-Rail ☐ Air Pkg ☐ Excl. Use ☐ Air Cargo ☐ UPS Surface ☐ Mail ☐ Site Carrier SHIPMENT AUTHORIZATION NUMBER: <u>2892</u>																						
5. HM Proper Shipping Name: <u>Radioactive Material, excepted package - empty packaging</u> UN2910 <u>excepted package - instruments or articles</u> UN2910 <u>excepted package - limited quantity of material</u> UN2910 <u>excepted package - articles manufactured from natural or depleted uranium or natural thorium</u> UN2910 Special Form, n.o.s. UN2974 Low Specific Activity, n.o.s. UN2912 n.o.s. UN2982 Fissile, n.o.s. UN2918 (other) <u>Low-Level Water</u>		6. Markings Applied Package Orientation ☒ UN2910 Gross Weight ☒ UN2910 Radioactive: LSA ☒ UN2910 Type A ☒ UN2910 Type B ☒ UN2910 8. Additional RAM Desc. ☒ UN2910 Limited Quantity ☒ UN2910 Radioactive Material ☒ UN2910 Highway Route ☒ UN2910 Controlled Quantity ☒ UN2910		7. For Normal Form Identify ☒ Liquid ☐ Gas ☒ Solid Chemical Form ☐ Metal ☐ Oxide ☐ Elemental ☐ Nitrate Other: <u>WDC</u> 9. Placards Applied ☒ Yes ☐ No If Rail Specify Placards: <u>1</u> 10. EMERGENCY RESPONSE Telephone: <u>376-8724</u> Emergency Response Guide: <u>150</u>																						
11a. TYPE PACKAGE Strong Tight ☒ Type A ☒ Type B ☐ Type B(U) ☐ Type B(M) ☐		11b. CONSTRUCTION ☐ Box, FB ☒ Wood ☐ Steel ☐ Drum ☐ Cask ☐ Other: <u>Low-Level Water</u>		Warning - Fissile Class III Shipment. Do Not Load More Than <u>1</u> Packages Per Vehicle. In Loading and Storage Areas, Keep at Least 20 Feet From Other Packages Bearing Radioactive Labels.																						
12. No. Pkgs. Model Package COC/Spec Serial No. Seal No. Isotopes T.I. Containing Gr. Wt.		<table border="1"> <tbody> <tr> <td>3</td> <td>55547</td> <td>7-26302</td> <td>7-26302</td> <td>7-26302</td> <td>15.0</td> <td></td> </tr> <tr> <td>1</td> <td>55547</td> <td>7-26302</td> <td>7-26302</td> <td>7-26302</td> <td>26.0</td> <td></td> </tr> <tr> <td colspan="5">TOTALS</td> <td>41</td> <td>41.0</td> </tr> </tbody> </table>				3	55547	7-26302	7-26302	7-26302	15.0		1	55547	7-26302	7-26302	7-26302	26.0		TOTALS					41	41.0
3	55547	7-26302	7-26302	7-26302	15.0																					
1	55547	7-26302	7-26302	7-26302	26.0																					
TOTALS					41	41.0																				
13. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable federal, state, local and international regulations for the transportation of hazardous materials. Certifier's Signature: <u>Steve Garnett</u> Date: <u>4/21/97</u> Organization: <u>WDC</u> Complete Cost Code (inc. End Function): <u>150</u>		14. Surface Dose Rate of Package <u>0.001 - 5.0 mrem/hr</u> Dose Rate at 1 Meter from Surface <u>0.001 - 5.0 mrem/hr</u> Smears of Outer Container ☒ <u>0.001 - 5.0 mrem/hr</u> TRUCK LOAD OR EXCLUSIVE USE ☐ <u>0.05 or more mrem/hr (N + T)</u> ☐ <u>0.05 or more mrem/hr (N + T)</u> ☐ <u>< 22 dpm & 1 /cm²</u> Surface ☐ <u>< 200 mrem/hr (N + T)</u> ☐ <u>< 2.2 dpm /cm²</u> ☐ <u>< 2.2 dpm /cm²</u> @ 5 feet ☐ <u>5.10 mrem/hr (N + T)</u> Additional Data and Instructions (i.e. Readings on Internal Packaging) ☐ <u>< Tbl. 2-2 HSRM</u> @ Cab ☐ <u>4.2 mrem/hr (N + T)</u> Signature - Radiation Monitoring <u>Steve Garnett</u> Survey No. <u>150</u> Date <u>4/21/97</u>																								
15. Vehicle <u>4499</u> Driver <u>J. Smith</u> Signature <u>J. Smith</u> Date <u>4/21/97</u>		16. Shipment has been inspected and verified to be in compliance with DOT regulations Signature <u>Steve Garnett</u> Printed Name <u>Steve Garnett</u> Date <u>4/21/97</u>																								
17. AIR TRANSPORT CERTIFICATION CARGO AIRCRAFT ☐ PASSENGER AIRCRAFT ☐ CARGO Aircraft: Only ☐ 1. Ltd Qty. ☐ 3. Research/Medical Diagnosis Labels Applied ☐ 2. < 3 T.I. ☐ 4. Human Medical Research		18. OFFSITE AUTHORIZATION B/L <u>(5510) 860-0000-02</u> Data Shipped <u>4/21/97</u> Routing <u>4/21/97</u> ETA <u>4/21/97</u> Surveyed By <u>Steve Garnett</u> Date <u>4/21/97</u> Approved for Shipment Offsite <u>Steve Garnett</u> Date <u>4/21/97</u>																								

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309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

RADIOACTIVE SHIPMENT RECORD						3. Page 1 of 1	
1. SHIP TO		2. SHIP FROM U.S. DEPT. OF ENERGY C/O		4. Ship ☒ Prepaid ☐ Collect			
Company <u>RFCH</u>		Company <u>RUHC</u>		Via ☒ Motor ☐ Air ☐ Parcel			
Address <u>CWCL/200W</u>		Address <u>209/300</u>		☐ Excl. Use ☐ Air Cargo			
City, State, Zip <u>Richland, WA 99352</u>		City, State, Zip <u>Richland, WA 99352</u>		☐ UPS Surface ☐ Mail			
Attention <u>Mike Archel</u>		Contact <u>Frank C. v.s</u>		☒ Site Carrier			
Phone <u>(509) 372-2066</u>		Phone <u>(509) 376-8724</u>		SHIPMENT AUTHORIZATION NUMBER <u>103045</u>			
5. HM Proper Shipping Name:		Radioactive Material:		6. Markings Applied		7. For Normal Form Identify	
☐ excepted package - empty packaging		7 UN2910		☐ Package Orientation		☐ Physical Form	
☐ excepted package - instruments or articles		7 UN2910		☒ Gross Weight		☐ Liquid ☐ Gas	
☒ excepted package - limited quantity of material		7 UN2910		☐ Radioactive - LSA		☒ Solid	
☐ excepted package - articles manufactured from natural or depleted uranium or natural thorium		7 UN2910		☐ Type A		☒ Chemical Form	
Special Form, n.o.s.		7 UN2974		☐ Type B		☐ Metal ☐ Oxide	
Low Specific Activity, n.o.s.		7 UN2912		8. Additional RAM Desc.		☐ Elemental ☐ Nitrate	
n.o.s.		7 UN2982		Limited Quantity		☐ Mixture	
Fissile, n.o.s.		7 UN2918		Radioactive Material		9. Placards Applied ☐ Yes ☒ No	
(other)				Highway Route		If Rail Specify Placards	
11a. TYPE PACKAGE		11b. CONSTRUCTION		Route Plan ☐ Yes ☒ No			
Strong Tight ☒		☐ Box, FB		10. EMERGENCY RESPONSE			
Type A ☐		☐ Wood		Telephone <u>(509) 372-3300</u>			
Type B ☐		☐ Steel		Emergency Response Guide(s): <u>161</u>			
Type B(U) ☐		☒ Drum					
Type B(M) ☐		☐ Cask					
		Other					
Mixed Waste Lead							
Warning - Fissile Class III Shipment. Do Not Load More Than 4 Packages Per Vehicle. In Loading and Storage Areas, Keep at Least 20 Feet From Other Packages Bearing Radioactive Labels.							
12. No. Pkgs.	Model Package	COC/Spec	Serial No.	Seal No.	Isotopes	T.I. Curies/Pkg	Gr. Wt. Lb.
	UN1A2	1A	7608221	1A	211 132	NA	5.676-8 1044
						TOTALS	NA 5.676-8 1044
(Shipper may describe package in detail on one of the unused lines above)							
13. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable federal, state, local and international regulations for the transportation of hazardous materials.							
Certifier's Signature <u>Frank C. v.s</u>		Date <u>5/27/77</u>	Organization <u>RFCH</u>		Complete Cost Code (Inc. End Function) <u>B7802</u>		
14. Surface Dose Rate of Package		Dose Rate at 1 Meter from Surface of Package		Smears of Outer Container		TRUCK LOAD OR EXCLUSIVE USE	
☐ <0.5 or _____ mrem/hr (N+BT)		☐ <0.5 or _____ mrem/hr (N+BT)		☐ <22 dpm & 7/cm ²		Surface ☐ <200 mrem/hr (N+BT)	
Additional Data and Instructions (inc. Readings on Internal Packaging)				☐ <2.2 dpm & 7/cm ²		@ 6 feet ☐ <10 mrem/hr (N+BT)	
Signature - Radiation Monitoring		Bldg.		Onsite Limits		@ Cab ☐ <2 mrem/hr (N+BT) or asleep	
Survey No.		Date					
15. PICKUP OF SHIPMENT							
Vehicle <u>150005</u>		Driver <u>Mike Archel</u>		Signature		Date <u>5/27/77</u>	
16. Shipment has been inspected and verified to be in compliance with DOT regulations							
Authorized Signature <u>Mike Archel</u>		Printed Name <u>Mike Archel</u>		Date <u>5/27/77</u>			
17. AIR TRANSPORT CERTIFICATION		CARGO AIRCRAFT		PASSENGER AIRCRAFT		Pkg. Dimensions	
☐ Cargo Aircraft Only		☐ 1. Ltd Qty		☐ 3. Research/Medical Diagnosis		<u>1A</u>	
☐ Labels Applied		☐ 2. <3 T.I.		☐ 4. Human Medical Research			
18. OFFSITE AUTHORIZATION							
B/L		Date Shipped		Routing		ETA	
Surveyed By		Date		Approved for Shipment Offsite		Date	

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309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

RADIOACTIVE SHIPMENT RECORD						3. Page 1 of 1	40585																																																												
1. SHIP TO		2. SHIP FROM U.S. DEPT. OF ENERGY CIO		4. Ship ☒ Prepaid ☐ Collect																																																															
Company <u>RFSH</u>		Company <u>PULHC</u>		Via ☒ Motor ☐ Air ☐ Air Page																																																															
Address <u>CWC/200W</u>		Address <u>309/300</u>		☐ Excl. Use ☐ Air Cargo																																																															
City, State, Zip <u>Richland WA 99352</u>		City, State, Zip <u>Richland WA 99352</u>		☐ UPS Surface ☐ Mail																																																															
Attention <u>Mike Nichols</u>		Contact <u>Frank Carver</u>		☒ Site Carrier																																																															
Phone <u>(509) 372-3066</u>		Phone <u>(509) 376-8724</u>		SHIPMENT AUTHORIZATION NUMBER																																																															
5. HM Proper Shipping Name: <u>Mixed Waste Oil</u>		Radioactive Material, <u>7 UN2910</u>		6. Markings Applied		7. For Normal Form																																																													
☐ excepted package - empty packaging		<u>7 UN2910</u>		Package Orientation ☒		Physical Form ☒ Liquid ☐ Gas																																																													
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(other)																																																																			
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Strong Tight ☒		☐ Box, FB		Route Plan ☐ Yes ☒ No																																																															
Type A ☐		☐ Wood		10. EMERGENCY RESPONSE																																																															
Type B ☐		☐ Steel		Telephone <u>509-372-3800</u>																																																															
Type B(U) ☐		☐ Drum		Emergency Response Guide(s):																																																															
Type B(M) ☐		☐ Cask		<u>161</u>																																																															
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Signature - Radiation Monitoring <u>[Signature]</u>		Bldg. <u>309</u>		☒ Tbl. 2-2 HSRM Onsite Limits		@ Cab ☐ <2 mrem/hr (N+T) or sleeper																																																													
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Vehicle <u>144-2525</u>		Driver <u>[Signature]</u>		Signature <u>[Signature]</u>		Date <u>5-27-97</u>																																																													
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Authorized Signature <u>[Signature]</u>		Printed Name <u>Keith R. Smith</u>		Date <u>5-27-97</u>																																																															
17. AIR TRANSPORT CERTIFICATION		PASSENGER AIRCRAFT		Pkg. Dimensions																																																															
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18. OFFSITE AUTHORIZATION																																																																			
B/L <u>130-101 889-0000-13</u>		Date Shipped <u>5-27-97</u>		Routing <u>DULLES</u>		ETA <u>5-27-97</u>																																																													
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309 BUILDING

ADVANCED FUEL FACILITIES TRANSITION

Name of Contractor B&W Hanford Co.			DECLARATION OF EXCESS Follow the instructions on the reverse side (last page) for preparing this form.			Property Management Investigator <i>MA/MLT</i>			Prop. Acctg			Page <u>1</u> of <u>1</u> Date <u>2/20/97</u>			Property Management Control No. <u>W87036911</u>		
☐ CAPITAL ☒ EXPENSE			Please Type			PNL PERSONNEL ONLY - See Note Below			EXCESS YARD USE ONLY								
Item No.	Qty	Unit	Description	Cond. Code	Account to be Credited	Acquisition Value		Qty	Unit	Location	List No.	Class	Iter				
1	1	lot	Lead for recycle	X	EXPENSE			1	lot	1164	BKOW	SALU	0				
Recycled Lead																	
THE ABOVE LISTED PROPERTY - ☒ IS ☐ IS NOT - TOXIC NOR HAZARDOUS TO HUMANS, ANIMALS OR THE ENVIRONS.																	
HAZARDOUS DISPOSAL INST. (When Applicable)																	
Reason for Excessing Lead collected from building																	
Industrial Safety & Fire Protection																	
HPT Clearance for Public Sale																	
Survey No.																	
Date																	
Material Received and Verified By <i>De Dub</i>																	
Location of Burial																	
Date Received 3-5-97																	
Authorized By <i>E.J. Bitten</i>																	
Property Management Approval <i>MA/MLT</i>																	
Office Furniture Review By (See no. 7, back page)																	
This shipment accepted subject to subsequent weighing and/or count of material.																	

NOTE: PNL Personnel Only - Your Property Accounting will complete

Distribution: White - Property Management Blue - Property Accounting
Yellow - Originator's Receipt Pink - General Services AdministrationGreen - Excess Disposal Record
Goldendrod - Originator

54-3000-018 (01/9)

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Distribution	Advanced Fuel Facilities Transition	Date 06/16/97
Project Title/Work Order		EDT No. 618475
RLA Room 20 Cleanout and Stabilization		ECN No. N/A
		B7003

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