Idaho National Laboratory

RETRIEVAL OF AN SLSF CANISTER FROM A 26-IN. RSWF LINER	Identifier: RSWF-OI-011 Revision: 3 Effective Date: 11/07/12 Page: 1 of **28**

Materials and Fuels Complex	Laboratory Instruction	**USE TYPE 1**	eCR Number: 607413, 608017

Manual: MFC RSWF Operating Instructions (OI)

TSR RELATED
PERMIT RELATED

PROCEDURE REVIEW REQUIREMENTS PER SP-20.1.4					
DISCIPLINE	REVISION	CHANGE	DISCIPLINE	REVISION	CHANGE
NUC OPS MAINTENANCE	N/A	N/A	F&SS	N/A	N/A
MFC FACILITY ENGINEERING	N/A	N/A	FCF OPERATIONS	N/A	N/A
TRAINING	N/A	N/A	HFEF OPERATIONS	N/A	N/A
NUCLEAR SAFETY REVIEW	X	X	EML	N/A	N/A
PROJECTS	N/A	N/A	FASB	N/A	N/A
SSPSF OPERATIONS	N/A	N/A	RCL	N/A	N/A
TREAT OPERATIONS	N/A	N/A	FMF OPERATIONS	N/A	N/A
TREAT WAREHOUSE OPERATIONS	N/A	N/A	ZPPR OPERATIONS	N/A	N/A
HOISTING AND RIGGING	*	*	NRAD OPERATIONS	N/A	N/A
QUALITY	*	*	ANALYTICAL LAB	N/A	N/A
TSD FACILITIES OPERATIONS (CESB and RSWF)	X	X	RADIOLOGICAL CONTROLS	*	*
ENVIRONMENTAL	*	*	INDUSTRIAL SAFETY	*	*
INTER-FACILITY TRANSFERS	N/A	N/A	INDUSTRIAL HYGIENE	*	*
OUTSIDE REVIEW	N/A	N/A	FIRE PROTECTION	N/A	N/A
CUI REVIEW	N/A	N/A	SAFEGUARDS AND SECURITY	*	*
WASTE GENERATOR SERVICES	N/A	N/A	PACKAGING & TRANS.	N/A	N/A
* QUALIFIED REVIEWER SHALL DETERMINE THE NEED FOR THESE REVIEWS BASED UPON THE SCOPE OF THE CHANGE					

REVISION LOG

Rev.	Date	Affected Pages	Revision Description
0	09/29/10	All	See eCR 584219. New issue.
1	10/25/11	All	See eCR 585469 and 586133. PFCs.
2	08/23/12	All	See eCR 606160. SAR-407 implementation and periodic review.
3	11/07/12	All	See eCRs 607413 and 608017. PFCs.

CONTENTS

1. PURPOSE/SCOPE/APPLICABILITY

This procedure provides instructions for opening a Radioactive Scrap and Waste Facility (RSWF) liner, retrieving a Sodium Loop Safety Facility (SLSF) waste can from the RSWF liner, performing a free-air transfer of the SLSF to a Facility Transfer Container (FTC), and preparing the loaded FTC for transport from RSWF to the Idaho Nuclear Technology and Engineering Center (INTEC).

Retrievals involving mixed waste must be transferred in compliance with the Resource Conservation and Recovery Act (RCRA) Permit (PER-116, "HWMA RCRA Partial Permit Materials and Fuels Complex").

Each working copy of this procedure can only be used to perform one retrieval and transfer.

The performers for this procedure are identified in the individual performance steps.

The activities directed by this procedure have been designated Quality Level 2 per Quality Level Determination MFC-000914.

This procedure implements requirements as identified in -SAR-407, "Safety Analysis Report for the Radioactive Scrap and Waste Facility (MFC 771)" and TSR-407, "Technical Safety Requirements for the Radioactive Scrap and Waste Facility (MFC 771)."

2. RISKS AND CONTROLS

Sequence of Basic Activities	Potential Hazard	Hazard Control
1. Retrieval of storage cans.	1. Radiation/contamination	1. 1) A Radiological Work Permit is required. 2) Use temporary/portable shielding when necessary. 3) Operate the crane boom extended to minimize exposure to crane operator. 4) The liner will be posted as a CA prior to removing the shield plug. PPE will be per the RWP.
2. Heavy equipment operation.	2a. Damage to equipment	2a. 1) Equipment operations must be performed by Material Services personnel. 2) A spotter is required for equipment operations within RSWF. 3) Maintain loads close to the ground during movement.
	2b. Transfer path disturbed or unstable	**SAR-407, Safety Analysis Commitment** 2b. Test drive heavy equipment over the suspect area to determine that soil compaction is sufficient to support the load. Heavy equipment, which has not been evaluated for load effects on the storage liners at RSWF per ECAR-1827, "RSWF Equipment Loading Adjacent to Liners," must be restricted to the maintained roadway that runs inside the perimeter fence of RSWF.

Sequence of Basic Activities	Potential Hazard	Hazard Control
	2c. Personnel injury	2c. 1) Restrict the fieldwork area to limit access to authorized personnel and identify proper PPE to enter the work area. 2) Ensure high visibility garments are worn by persons in proximity to operating equipment.
3. Hoisting and rigging.	3. Personnel injury and equipment damage	3. 1) Rigging tackle inspected for defects by a qualified Material Services Rigger prior to use. 2) Hoisting and Rigging equipment annual inspection certification verified prior to use. 3) Personnel must wear safety shoes, hardhats and leather gloves and keep hands clear of pinch points. 4) Make sure the load is attached securely and that the correct lifting equipment is used. 5) Never travel suspended loads over personnel. 6) Keep the container as low as practical while over the liners ensuring a height of six (6) ft is not exceeded. 7) A load indication device shall be used to prevent inadvertent equipment overload.

Sequence of Basic Activities	Potential Hazard	Hazard Control
		8) Load indication device shall be in current calibration. 9) All lifts associated with this procedure are designated pre-engineered production lifts and will be performed per ECAR-1213.
4. Elevated work.	4. Slips and falls	4. 1) Boom lift stands are to be used for the performance of this procedure. 2) If working at a height of greater than 4 ft, observe INL fall protection per LRD-14111.
5. Working near open liner.	5. Falls	5. Cover open liners when left unattended with a temporary cover or protect the open hole with standard removable railing.
6. Hazardous/uneven walkways.	6. Falls, slips, and trips	6. 1) Watch for uneven ground, above ground liners, and concrete rows. 2) Observe and be aware of potential tripping hazards presented by positioning devices, liners, retrieval cables, concrete rows, and heavy equipment. 3) Remove excess snow in work area and wear proper footwear for slick surfaces.

Sequence of Basic Activities	Potential Hazard	Hazard Control
7. Weather conditions.	7a. Personnel injury/ equipment damage	7a. 1) Discontinue work and seek shelter per LWP-16108 or at the direction of the Shift Supervisor (SS). 2) Crane operations must be suspended when sustained winds are >25 mph.
	7b. Heat and cold stress	7b. Supervisor shall establish heat/cold stress stay times per LWP-14606.
8. Working in RSWF.	8. Snake bites/insect bites or stings	8. 1) Visually inspect area for snakes/stinging insects prior to work. 2) Contact the TSD Facilities Manager or Industrial Safety to have any snakes found removed from the work area. 3) If bitten or stung, notify supervisor and seek immediate medical attention. 4) There is a potential for snakes to take shelter under material lying on the ground; use caution when moving material lying on the ground undisturbed. Do not reach under material until you know there are no snakes under it.
9. Waste disposal.	9. Improper disposition of generated waste	9. Bag low-level radioactively-contaminated material and place in the radioactive waste laydown area. Complete Form 435.42.

2.1 Training Required

2.1.1 All Personnel

- 00INL288, Personal Protective Equipment
  OR
  QLHAZ24T, 24-HR TSD WKR (OSHA HAZWOPER)

NOTE: *Personnel without Rad Worker training may be allowed entry onto the RWP under escort with approval of the facility RadCon Manager.*

- QN00RAD1, INL Radworker I
  OR
  QN00RAD2, INL Radworker II, for unescorted access (with exception of Health Physics Technician [HPT]).

2.1.2 Material Services (MS) (as applicable to task performed)

- QNHSWING, Swing Cab Tel Boom Crane Operator
- QNRIGGER, Rigger
- QNTSDFEO, EO TSDF Support Personnel
- QNMFHEEO, Heavy Equipment Operator
- QNFKL002, Forklift Operator
- QLFPARWK, At Risk Worker Fall Protection
- QN00BOOM, INL Boom Lift.

2.1.3 Health Physics Technicians

- QNMFCHPT, Health Physics Qualification.

2.1.4 Shift Supervisor (SS)

- QLHAZ24T, 24-HR TSD WKR (OSHA HAZWOPER).

2.1.5 RH Waste Retrieval Specific Qualifications

- RSWF SS, RHTRUFAS
- Heavy Equipment Operator, RHTRUHEO

- Equipment Operator, RHTRUEO
- Health Physics Technician, RHTRUHPT
- Nuclear Facility Operator, RHTRUNFO.

2.2 Precautions and Limitations

2.2.1 OPS/MS: IF radiological conditions exceed the limiting conditions that void the RWP at any point in this procedure,
THEN stop work, place work area in a safe condition, and notify TSD Facilities Manager and HP Supervisor.

2.2.2 A mobile crane, man lift and forklift are required to perform this procedure. All heavy equipment operation and hoisting and rigging must be performed by MS personnel. Ensure high visibility garments are worn by persons in proximity to operating equipment.

2.2.3 If a problem is encountered that will prevent completion of this procedure all work must be stopped, the TSD Facilities Manager notified, and the actions necessary to place the facility/liners in a safe configuration determined as follows:

2.2.3.1 If the retrieval cannot be completed by the end of the day, the TSD Facilities Manager, with written concurrence of the INL Safeguards Manager, may authorize a delay in welding shut or emptying a liner container scrap (such as, accountable material or spent nuclear fuel). The Program Environmental Lead must be notified of the delay.

2.2.3.2 The actions to be performed to resolve the problem must be documented in an appropriate form (e.g., work order, nonroutine procedure), commensurate with the complexity of the evolution.

2.2.3.3 All actions must comply with applicable facility regulations (RCRA permit, Safety Analysis Report (SAR) and RSWF-OI-005, “Nuclear Material Control Plan”).

2.2.3.4 The instructions must be reviewed as determined by the TSD Facilities Manager and must include, as a minimum, the SS and Operations Support personnel, and approval by the TSD Facilities Manager.

2.2.4 Heavy equipment operations must be in accordance with LWP-14104, "Heavy Industrial Equipment."

SAR-407, Safety Analysis Commitment

2.2.5 Throughout the performance of this procedure, heavy equipment, which has not been evaluated for load effects on the storage liners at RSWF, per ECAR-1827, "RSWF Equipment Loading Adjacent to Liner", must be restricted to the maintained roadway that runs inside the perimeter fence of RSWF.

2.2.6 Any canisters or FTCs reading greater than the desirable radiation levels identified on FRM-1209, "RSWF — Facility Transfer Container (FTC) Loading Sheet" should be evaluated on a case-by-case basis by Radiological Control Management from both MFC and INTEC to determine if adequate controls through the Radiological Protection Program (RPP) can allow them to be utilized.

2.2.7 During retrieval operations, RSWF will have radiation levels that warrant classification as a High Radiation Area – Access Controls Required (HRA-ACR). The area will be locked with a crash bar installed on the egress door to facilitate easy exit in case of emergency. If the area is not locked, an Access Point Watch (guard) will be assigned to restrict access to the area to authorized individuals only.

2.2.8 During crane operations, "shock loading" must be avoided when lowering a container into an FTC.

2.2.9 As a Best Management Practice, the crane operator should rotate his boom away from personnel working below, as much as practical.

TSR-407, AC 5.407.6

2.2.10 Containers to be retrieved into a FTC must be on the contractor approved list LST-594, "RSWF Accelerated Retrieval RH Approved Container List."

2.2.11 The waste container ID Nos. used to determine if a container is listed on LST-594 may be located on the top and/or side of the container. When a container has numbers on both locations, the numbers must match.

TSR-407, LCO/SAC 3.407.2

2.2.12 Throughout the performance of this procedure and based on radiation level readings, the HPT must ensure the closest facility worker will not be in a position where the general radiation field is 5 R/hr or greater. The closest facility worker will generally be the crane operator.

2.2.13 This procedure can be used for training and demonstration purposes using an empty container. The requirement for the container ID to be listed on LST-594 does not apply to training and demonstration exercises.

SAR-407 Safety Analysis Commitment

2.2.14 Keep heavy equipment 6 ft away from 48 in. and 60 in. liners.

2.2.15 No cans shall be retrieved if contamination is detected on the shield plug or liner.

2.2.16 IF contamination is found during radiological surveys,
THEN stop work, place the work area in a safe configuration, notify the SS, Facility Management, and Radcon Management.

2.3 TSR Requirements

TSR-407

2.3.1 The following TSR-407 Limiting Conditions for Operation (LCOs) and Administrative Controls (ACs) are applicable to the work scope addressed in RSWF-OI-011.

TSR	
LCO/SAC 3.407.2	Supplemental Radiological Control
AC 5.407.1	Container Handling Limit
AC 5.407.2	RSWF In-facility Movements
AC 5.407.4	Staffing Requirement
AC 5.407.6	Criticality Safety Controls.

3. PREREQUISITES

3.1 General

TSR-407, AC 5.407.4

3.1.1 Ensure the following minimum qualified staff are present to support transfer activities:

- 1 SS
- 1 Nuclear Facility Operator

- 1 HEO
- 1 EO
- 2 HPTs
- 1 Access Point Watch (as required).

3.1.2 Ensure the mobile crane, manlift, hoisting and rigging (H&R) lifting tackle, and FTC are available as required.

3.1.3 Ensure a verification survey of shipping trailer and external of the FTC has been completed.

3.2 Planning and Coordination

3.2.1 SS: Verify the following:

3.2.1.1 Ensure the applicable RWP is approved.

3.2.1.2 Ensure liner has been prepared for retrieval per RSWF-OI-002, "Retrieval of Material From 16-in. and 26-in. Liners."

3.2.1.3 Obtain the most current copy of ECAR-1213, "RSWF Hoisting and Rigging Plans."

3.2.1.4 MS Rigger/Ops: Prior to use, inspect all rigging tackle to be used to ensure it is free from defects and is within the periodicity for required inspection per LWP-6500, "Hoisting and Rigging at the INL."

3.3 Special Tools and Equipment; Parts and Supplies

3.3.1 Obtain the following tools and equipment:

NOTE: *The following is not a comprehensive list. Additional tools/equipment may be added as necessary per SS direction.*

- Manlift(s)
- Mobile crane
- Forklift (25 ton minimum)

- Lifting tackle to attach to the retrieval cable
- One nylon/polyester sling with a working load limit (WLL) of at least 5,600 lb
- 5/8-in. shackle with a WLL of at least 5,600 lb
- Wind sock
- Cable handling tool
- 3/4-in. drive, deep socket (size 1-5/8 in.)
- 3/8-in. Allen wrench
- Temporary shielding (if required)
- Video camera and recording equipment
- High intensity spotlight
- Power supply
- Replacement 1/2-in. wire rope (new)
- FTC
- FTC vertical support stand (FTC receiving station)
- FTC funnel.

NOTE: *Independent Verification (IV) is required for the items obtained in Step 3.3.2.*

3.3.2 MS: Obtain the following M&TE and record the calibration data in the following table:

- Load-indicating device with current calibration sticker.

NOTE: *Torque wrenches/screwdrivers only have a usable range of 20 to 90% of their full scale. The torque value a torque wrench/screwdriver will be used to obtain must fall within its usable range.*

- Torque wrench for tightening FTC bottom cover mechanical latch nuts to 286 + 28, -0 (286-314 ft-lb) (with current Calibration Sticker)
- Torque wrench (0 to 50 ft-lb) for tightening FTC lid swivel eye bolts (with current Calibration Sticker).

Manufacturer	Model Number	S&CL Number	Calibration Due Date

It has been verified that the above specified M&TE is available and calibrated.			
Signature:		**Date:**	
IV Signature/S Number:		**Date:**	

3.4 Field Preparations

NOTE: *The purpose of the test drive is to ensure that the ground is stable, there are no obstructions in the transfer path, and the forklift and FTC will have unhindered progress to the liner.*

3.4.1 OPS: Inspect the row where the retrieval will occur for obstacles (e.g., liners, lift fixtures) and low areas that might interfere with the movement of the 25 ton forklift.

3.4.2 MS: If necessary, perform a test drive by driving the forklift (loaded with an empty FTC) over the transfer path. As necessary, stabilize the transfer path and/or remove obstructions from the transfer path so the forklift can make unhindered progress.

4. FACILITY CONDITIONS

4.1 SS: Perform the following:

4.1.1 Verify the retrieval operation to be performed has been approved and approval is documented on an RSWF-Transfer Evaluation Checksheet (reference RSWF-OI-004, "Administrative Requirements/Process for Material Transfers," Appendix A) by the TSD Facilities Manager.

TSR-407, AC 5.407.2

4.1.2 Verify the weather conditions (e.g., wind, snow, rain) are safe for performing the transfer. (Temperature must be >−40°F, sustained winds are not >25 mph, and no severe weather warnings are in effect.)

TSR-407, AC 5.407.1

4.1.3 Verify that no other container handling operations are or will be in progress during performance of this procedure.

Facility conditions have been met.			
Shift Supervisor:		**Date:**	

5. INSTRUCTIONS

NOTE 1: *The subsections within Section 5 may be performed independently or marked "N/A" as directed by the SS.*

NOTE 2: *The RSWF Representative may document step completion (in lieu of the person completing the step) during the performance of steps that must be performed sequentially without interruption.*

NOTE 3: *Radiological instrumentation specified in Step 5.3.24 may be installed at any time and in any order, prior to Step 5.3.24 per the direction of the SS.*

NOTE 4: *SS may pre-direct the performance of multiple steps of this procedure.*

NOTE 5: *Movement and staging heavy equipment may be performed as per SS direction, in any order.*

5.1 Preparatory Procedures

5.1.1 SS: Record the following below:

Date of retrieval:	
Transfer/retrieval number:	
Material transferred from liner No.:	
Container Identification No.:	

5.1.2 SS: Notify the RSWF Material Balance Area (MBA) Custodian that material will be retrieved from an RSWF liner.

5.1.3 RSWF MBA Custodian: Verify proper liner identification number and contents and provide a transfer document to RSWF personnel (if necessary).

I have been notified of the transfer. Proper liner identification number and contents have been verified and (if necessary) a transfer document provided to RSWF personnel.			
RSWF MBA Custodian/ Safeguards Representative:		**Date:**	

WARNING

Any personnel in the vicinity of operating equipment must be properly identified with high visibility garments.

CAUTION

When operating heavy equipment within RSWF, care must be exercised to ensure the equipment does not contact liners.

5.1.4 MS Equipment Operator: Transfer the FTC from the transport trailer to the forklift. (ECAR-1213)

5.1.5 MS: Stage the appropriate equipment (mobile crane, forklift, manlift, applicable tackle, etc.) as necessary to perform work activities directed by this procedure.

5.1.6 MS: Position a mobile crane as far away as practical, such that the crane hook, with the load-indicating device attached, can be centered above the liner.

5.2 Preparing the FTC to Receive an SLSF Canister

5.2.1 MS: Position the FTC ensuring it is within boom radius of the storage liner and outside of the array or in row BB.

5.2.2 OPS: Torque the FTC bottom cover bolts to 286 + 28, -0 ft-lb (286-314 ft-lb).

5.2.3 OPS: Release the mechanical latches on the top lid.

5.2.4 OPS: Ensure the swivel eyebolts are installed in the top lid and torqued to manufacturer's specification.

5.2.5 MS: Rig the crane to the FTC lid.

5.2.6 HPT: Establish a Radiological Buffer Area (RBA).

5.2.7 MS: Using the crane, lift the lid away from the FTC.

5.2.8 HPT: Perform verification radiological surveys of the top lid.

5.2.9 OPS/MS: IF the lid is not contaminated, THEN place the lid on the ground.

5.2.10 HPT: Perform verification radiological surveys of the FTC interior.

5.2.11 OPS/MS: Inspect the FTC interior for any obstructions or abnormalities.

5.2.12 MS: Using the crane, insert the FTC funnel guide and attach it to the FTC using the mechanical latches.

5.3 Removing Shield Plug/Cover Plate

5.3.1 OPS/SS: Record the liner ID No.

Liner ID No.:			
Signature:		**Date:**	

5.3.2 OPS/MS: Measure the crane boom radius to verify it is within limits for the load being lifted (maximum distance is 80 ft).

Crane boom radius:	ft

5.3.3 HPT: Establish a HRA-ACR.

5.3.4 MS Rigger/OPS: Attach a shackle (5/8-in. minimum), nylon/polyester sling, and load-indicating device to the shield plug/cover plate lifting fixture.

5.3.5 HPT: Post the liner as a contamination area.

5.3.6 MS Crane Operator: Remove the shield plug/cover plate from the liner, ensuring the lifting force does not exceed 3,200 lb, as indicated on the load-indicating device.

5.3.6.1 HPT: As the shield plug/cover plate is being removed, perform contamination survey of the exposed plug/plate.

5.3.7 MS Crane Operator: Rotate the shield plug/cover plate away from the open liner.

TSR-407, LCO/SAC 3.407.2

5.3.7.1 HPT: After the shield plug/cover plate is moved, perform a radiation survey over and around the open liner. Ensure area does not exceed the RWP limit.

WARNING

To minimize radiation exposure to the HPT, the long-handled tool must be long enough that the HPT is not required to kneel over the open liner to reach the inside of the liner or the waste can.

5.3.8 HPT: Using a long-handled tool, perform a contamination survey on the inside of the liner, retrieval cable, and on the outside of the waste storage container, to the extent possible.

5.3.9 MS Rigger: Set the shield plug/cover plate on the ground.

TSR-407, AC 5.407.6

5.3.10 SS and Verifier: Inspect the container from the top (using artificial light, cameras, and a mirror if necessary) to verify that the Container ID No. stenciled or etched on the lid (if present) is identified on LST-594.

5.3.10.1 IF no container ID is present on the lid,
THEN document on FRM-1209, "RSWF-Facility Transfer Container (FTC) Loading Sheet," that there is no number and **GO TO** Step 5.3.11,
WITHOUT RETURNING TO this step.

5.3.10.2 SS: Record the Container ID No. below.

Container top ID No.:	

5.3.10.3 IF the container ID No. is not identified on LST-594, THEN stop operations and notify the TSD Facilities Manager.

5.3.10.4 Record dual verification of the container lid (top) ID No. on FRM-1209.

5.3.11 Certified Hoisting and Rigging Inspector: Inspect the wire-rope sling to the extent possible (using artificial light, cameras, and a mirror if necessary).

5.3.12 IF the wire-rope sling is <1/2 in. in diameter or is not satisfactory (kinks, bird-caging, crushing, excessive corrosion, or other obvious defects), THEN **GO TO** Subsection 5.5 and replace the retrieval cable.

5.3.13 MS Rigger: Ensure a sling and the load-indicating device is attached to the crane.

5.3.14 MS Rigger: Attach the container to the load-indicating device.

CAUTION

To prevent damage to the wire-rope sling, the lifting force cannot exceed 5,000 lb for 1/2-in. diameter wire rope.

5.3.15 MS Crane Operator: Lift the container slightly off the bottom of the liner.

5.3.16 SS/OPS: While the container is suspended from the crane, observe the container weight and record it below:

	lb

TSR-407, AC 5.407.2

5.3.17 SS/OPS: Verify the container weight less than or equal to 7,000 pounds.

5.3.18 HPT: Perform a contamination survey on areas of the container that were not accessible in Step 5.3.8 (if necessary). Record the highest radiation reading below. (To facilitate this, the container position may need to be adjusted inside the liner while lifted.)

Highest Radiation Reading:	

5.3.19 HPT: If no contamination was detected, remove the CA posting.

TSR-407, AC 5.407.6

5.3.20 SS/OPS: Identify container side marking by remote camera and verify that the ID No. is on LST-594 and that it is the same as the top ID No. on the waste container.

5.3.21 IF the side ID is not readable with the camera,
THEN remove the camera.

WARNING

Any personnel in the vicinity of operating equipment must be properly identified with high visibility garments.

NOTE: *The closest facility worker will generally be the crane operator.*

5.3.22 HPT: Ensure the following radiological instrumentation is positioned as indicated:

5.3.22.1 Place long cable detectors in holder assemblies positioned at 30 centimeters from the liner opening, 1 meter from the liner opening, and between the liner and the crane operator.

5.3.22.2 Place the digital readouts for the instruments on a suitable surface and match the digital readouts with the corresponding detectors.

5.3.22.3 Establish/verify that the radiological instrumentation and telemetry system is operational.

5.3.23 SS: Ensure all facility workers are positioned away from the liner, as directed by the HPT.

5.3.24 HPT: Monitor the worker general radiation level while the container is exposed.

CAUTION

To prevent a TSR violation, the bottom of the waste container must not be lifted higher than the top of the liner until the Container ID No. has been determined and verified to be listed on LST-594.

TSR-407, AC 5.407.6

5.3.25 While observing the weight, lift the container from the liner as necessary to verify the Container ID No. stenciled or etched on the side of the container. (At no time shall the bottom of the waste container be lifted higher than the top of the liner).

5.3.26 IF the side container ID is not listed on LST-594 or does not match the top container ID,
THEN perform the following:

5.3.26.1 Lower the container back into the liner.

5.3.26.2 Stop work and notify TSD Facilities Manager.

5.3.27 Record dual verification of the side container ID No. on FRM-1209.

5.3.28 Complete the FRM-1209 inspection.

5.3.29 IF the FRM-1209 inspection is unsatisfactory,
THEN stop work place work area in a safe condition
AND notify TSD Facilities Manager and HP Supervisor.

CAUTION 1

The height of the SLSF container must be kept as low as practical, but must not exceed a height of six (6) feet while directly over RSWF storage liners. The container may be raised as high as necessary to allow proper loading into the FTC, once it is outside of the liner array.

CAUTION 2

Shock loading of the crane must be avoided while performing top loading activities.

5.3.30 MS Crane Operator: While observing the weight, lift the SLSF canister from the liner and transfer the canister to the FTC via free air transfer to the top of the FTC.

5.3.31 MS Crane Operator: Slowly lower the waste can until it rests on the FTC bottom cover.

5.3.32 HPT: Perform a radiological survey of the top of the FTC.

5.3.33 MS Rigger: Disconnect the wire rope sling from crane hook and place it into the FTC.

5.3.34 MS Rigger/Ops: Remove the FTC funnel guide.

5.3.35 MS Rigger/Ops: Replace the FTC top cover and secure the mechanical latches.

5.3.36 HPT: Perform a radiological survey to ensure the radiation levels are below the HRA-ACR limits.

5.3.37 HPT: Remove the HRA-ACR and RBA postings and controls.

5.3.38 HPT: Perform shipping radiation survey of the FTC.

5.4 Preparing the FTC for Shipping

5.4.1 If the proposed transfer involves mixed waste, perform the following:

5.4.1.1 Perform a visual inspection. Inspect the FTC for container integrity.

5.4.1.2 Inspect the FTC per FRM-1005, "Radioactive Scrap and Waste Facility (RSWF) Interim Storage Container (ISC)/Facility Transfer Container (FTC)/Shipping Container Staging Area Log and Weekly Inspection Form."

5.4.1.3 Verify container hazardous waste labeling is present (such as, a hazardous waste label or a barcode). Place hazardous waste label, if required.

CAUTION

Ensure the forklift, loaded FTC, and crane do not contact the liners when equipment is removed from the area.

TSR-407, AC 5.407.2

5.4.2 MS Equipment Operator: Using a forklift transfer the FTC to the designated staging area while maintaining forklift speed 10 mph or less and the bottom of the PTC 6 feet or less from the impact surface.

TSR-407, AC 5.407.2

5.4.3 MS Equipment Operator: Transfer the FTC from the forklift to the transport trailer while maintaining the bottom of the FTC 6 feet or less from the impact surface. (ECAR-1213)

5.4.4 HPT: Perform shipping radiological surveys of the FTC and transport trailer documenting the results on FRM-1209.

5.4.5 SS: Document the container transfer information on FRM-1209.

5.5 Wire-Rope Sling Replacement

5.5.1 MS Rigger/OPS: Remove the existing cable by unscrewing the threaded lifting eye from the SLSF can.

5.5.2 MS Rigger/OPS: Use remote re-cabling tool(s) to replace the lifting cable by threading in a new cable and threaded lifting eye which has been prefabricated and tested.

5.5.3 MS Rigger/OPS: Using a camera, verify the eyebolt is fully seated.

5.5.4 Return to Step 5.3.13.

6. POST-PERFORMANCE ACTIVITIES

6.1 Job Completion

6.1.1 SS: Contact WGS for disposition of any waste generated.

6.1.2 SS: Perform a facility walkdown to ensure the integrity of the liners and cathodic protection system. Document facility walkdown and results in the TSD Facilities SS Logbook.

A facility walkdown to ensure the integrity of the liners and cathodic protection system has been completed and documented in the TSD Facilities SS logbook.			
Shift Supervisor:		**Date:**	

7. ABNORMAL OPERATIONS

7.1 High Radiation While Handling Containers

7.1.1 IF RWP limits are exceeded,
THEN immediately place the container in a safe position by returning it to the storage liner or the FTC,
AND notify TSD Facilities Manager and RadCon Supervisor.

7.1.2 IF the container **CANNOT** be safely placed back into the storage liner or the FTC,
THEN immediately suspend liner unloading/container handling operations,
AND immediately establish and maintain a safe distance relative to the container,
AND notify TSD Facilities Manager and RadCon Supervisor.

7.2 Dropped Container during Handling Operations

7.2.1 Immediate Actions

7.2.1.1 Immediately evacuate the facility.

7.2.1.2 SS: Have all non-contaminated personnel not involved in the emergency response assemble at the TREAT Office Building.

7.2.1.3 SS: Have all contaminated or potentially-contaminated personnel assemble, as directed by the HPT.

7.2.1.4 SS/Building Emergency Director (BED): Notify the Emergency Action Manager (EAM).

7.2.2 Subsequent Action

7.2.2.1 Perform required actions as directed by TSD-EAR-001, "TSD Emergency Response Procedure."

8. RECORDS

Executed copies of the following:

Forms:

FRM-1005, "Radioactive Scrap and Waste Facility (RSWF) Interim Storage Container (ISC)/Facility Transfer Container (FTC)/Shipping Container Staging Area Log and Weekly Inspection Form"
FRM-1209, "RSWF — Facility Transfer Container (FTC) Loading Sheet"

RSWF-OI-011, "Retrieval of an SLSF Canister from a 26-In. RSWF Liner"

NOTE: *LWP-1202, "Records Management," the INL Records Schedule Matrix, and associated record types list(s) provide current information on the retention, quality assurance, and/or destruction moratorium requirements for these records. Contact a Records Coordinator for assistance if needed.*

9. REFERENCES

ECAR-1213, "RSWF Hosting and Rigging Plans"

ECAR-1827, "RSWF Equipment Loading Adjacent to Liners"

FRM-1005, "Radioactive Scrap and Waste Facility (RSWF) Interim Storage Container (ISC)/Facility Transfer Container (FTC)/Shipping Container Staging Area Log and Weekly Inspection Form"

FRM-1209, "RSWF — Facility Transfer Container (FTC) Loading Sheet"

LRD-14406, "Welding, Cutting, and Other Hot Work"

LST-594, "RSWF Accelerated Retrieval RH Approved Container List"

LWP-1202, "Records Management"

LWP-14606, "Heat and Cold Stress"

LWP-16108, "Response to Severe Weather Conditions"

LWP-6500, "Hoisting and Rigging At the INL"

PER-116, "HWMA RCRA Storage and Treatment Permit for the MFC"

RSWF-OI-002, "Retrieval of Material from 16-In., 24-In. and 26-In. Liners"

RSWF-OI-004, "Administrative Requirements/Process for Material Transfers"

SAR-407, "Safety Analysis Report for the Radioactive Scrap and Waste Facility (MFC 771)"

TSD-EAR-001, "TSD Emergency Response Procedure"

TSR-407, "Technical Safety Requirements for the Radioactive Scrap and Waste Facility (MFC 771)"

10. APPENDIXES

None.