Document Action Request

Section 1 – Originator Request

Document No.: EP-WCRR-WO-DOP-0233	Revision No.: 37
Title: WCRRF Waste Characterization Glovebox Operations	Page 1 of 1

Description of requested action (Attach numbered additional sheets if needed.):
Revise procedure to allow flexibility with the processing of Nitrate Salts in order to permit flexibility with the amount of absorbent used. Make editorial corrections as necessary. No additional hazards were identified during this revision.

Originator Name (print):	Z#:	Organization:	Date:
Ron Smart	200480	LTP-PRO	03/08/13

Section 2 – Approval for Processing - Responsible Manager

☐ New Procedure ☐ Minor Revision ☐ Deactivation ☒ Major Revision ☐ Cancellation ☒ Perform Concurrent Periodic Review?

☐ Superseded Document(s) and Revision Number: N/A

☒ Approved ☐ Disapproved (return to originator) Comments: N/A PCRs N/A

Signature:	Print Name, Title:	Z#:	Date:
/s/ Lou Jalbert	Lou Jalbert, LTP-DDP Ops Mgr	121997	03/12/13

Section 3 – Hazard Determination - Responsible Manager

Hazard Determination: ☐ Low ☒ Moderate ☒ High/Complex ☐ N/A

Document is authorized to serve as IWD? ☐ Part I only ☒ Full IWD ☐ N/A

Section 4 – Required Reviews (see P315, Ch 16, Section 16.5.3)

Discipline:	Name:	Signature:	Date:
LTP-OCP/ES OM	Leah Lavallee	/s/ Leah Lavallee	03/14/13
LTP-OCP/SME	Gilbert Martinez / Jose Jerez	/s/ Jose Jerez	03/11/13
SOM	G. Fernandez / R. Axtell	/s/ Gen Fernandez	03/12/13
Engineering	Val Rhodes	/s/ Val Rhodes	03/12/13
QA	Robert Trujillo	/s/ Robert Trujillo	03/11/13
RP	Ken Courville	/s/ Ken Courville	03/12/13
IHS	Rob Bement	/s/ Rob Bement	03/13/13
WCRRF SSW	John Guadagnoli	/s/ John Guadagnoli	03/11/13

Validation Required (SME): ☐ Yes ☒ No ☐ Waive Comment:

Scope of Validation: ☐ Entire Procedure ☐ Change Only

Validation Method: ☐ Walkdown ☐ Simulation ☐ Tabletop ☐ First Time Use

Training Determination completed?: ☒ Yes ☐ N/A Completed by: Lou Jalbert

USQ/USI Number (if needed):	Signature:	Z#:	Date:
WCRR-13-199-D, R.0	N/A	N/A	N/A
Derivative Classifier: ☐ Unclassified ☐ OUO ☐ UCNI ☐ Classified	Signature: N/A	Z#: N/A	Date: N/A
☐ DUSA DUSA #	Signature: N/A	Z#: N/A	Date: N/A

Section 5– Final Approvals

☐ Release ☒ Hold	Details: Release on effective date.

Responsible Manager Signature:	Print Name, Title:	Z#:	Date:
	Lou Jalbert, LTP-DDP Ops Mgr.	121997	3-19-13
Additional Approval Signature: N/A	Print Name, Title: N/A	Z#: N/A	Date: N/A

WCRRF Waste Characterization Glovebox Operations

Effective Date: 03/20/13

NOTE *This procedure may be either a Moderate or High/Complex Hazard activity based on the anticipated radiation levels during the performance of the activity in accordance with P300 requirements.*

Hazard Class:	☐ Low	☒ Moderate	☒ High/Complex
Usage Mode:	☐ Reference	☐ UET	☒ Both UET & Reference

The Responsible Manager has determined that the following organizations' review/concurrence is required for the initial document and for major revisions a same type and level review is required. Review documentation is contained in the Document History File:

TRU Waste Project Support
Engineering
Quality Assurance
Radiation Protection
Industrial Hygiene and Safety
Subject-Matter Expert
Environmental Stewardship
Operations Support
Shift Operations Manager

Responsible Manager, LTP-DDP Operations Manager

Lou Jalbert	/ 121997	/	/ 3-19-13
Name (print)	Z#	Signature	Date

Classification Review: ☐ N/A ☒ Unclassified ☐ UCNI ☐ Classified _____

Art Crawford	/ 080070	/	/ 3/18/13
Name (print)	Z#	Signature	Date

Working Copy / Information Only (circle one)
Initials / Date: _____ / _____

This document fully satisfies the requirements of P300, Integrated Work Management, in order to systematically describe the work activity, the associated hazards, and the controls that **MUST** be employed to mitigate the risks.

HISTORY OF REVISIONS

Document Number	Issue Date	Action	Description
EP-WCRR-WO-DOP-0233, R.0	May 2007	New Document	
EP-WCRR-WO-DOP-0233, R.1	June 2007	Major Revision	Added requirement to move assay equipment outside of the WCG exclusion zone when not in use. Added precaution to prevent addition of items from multiple parent drums into a single daughter drum or Pipe Overpack Container. Added precaution for prohibited items – Class 1 oxidizers such as nitrates and reactive flammables.
EP-WCRR-WO-DOP-0233, R.2	June 2007	Major Revision	Added steps for dispositioning of potential pressurized containers.
EP-WCRR-WO-DOP-0233, R3	July 2007	Major Revision	Added steps for disposition of liquids. Added steps for actions to be taken in the event that any actual or suspected Class 1 oxidizers, flammables, or Pyrophoric materials/items are encountered.
EP-WCRR-WO-DOP-0233, R4	July 2007	Major Revision	Made use of glovebag to process Pu-238 inside the WCG optional based on input from the Facility ALARA Review Committee.
EP-WCRR-WO-DOP-0233, R5	July 2007	Major Revision	Added precaution for performance of diligent glove surveys and periodic glovebox wipe-downs when handling Pu-238. Deleted requirement for use of glovebag to process Pu-238 inside the WCG. Deleted Note in Sect. 8.12 which referenced use of partially filled POC's if all waste is from the same waste stream.
EP-WCRR-WO-DOP-0233, R.6	October 2007	Major Revision	Added precaution to prohibit remediation of following in the WCG 1) sealed containers > 4 liters that have a positive locking mechanism, 2) sealed un-vented containers > 4 liters with free liquids. Added action steps to take if containers are encountered. Added "allowed" container types that may be remediated. Added Attachment 3: Real Time Radiography Review for "Un-Allowed" Contents
EP-WCRR-WO-DOP-0233, R.7	October 2007	Minor Revision	Revised wording in Attachment 3 for review of RTR data.
EP-WCRR-WO-DOP-0233, R.8	October 2007	Major Revision	Deleted requirement for Real Time Radiography review & Attachment 3 (will be performed IAW EP-WCRR-WO-DOP-0211). Added section for processing high dose waste items (> 190 mrem/hr) of mixed material types. Added Attachment 3: Flowchart for Processing of High Dose Items of Mixed Material Types.
EP-WCRR-WO-DOP-0233, R.9	TBD	Major Revision	Incorporate the WCRR TSR page change to allow the opening of unvented 5- to 30-gal waste packages inside of the WCG.
EP-WCRR-WO-DOP-0233, R.10	January 2008	Major Revision	Delete requirement for SOM & CSE review of grounding sealed containers prior to venting.
EP-WCRR-WO-DOP-0233, R.11	March 2008	Minor Revision	Revised page 7 of 31 to include processing items that are heavy.

HISTORY OF REVISIONS (continued)

Document Number	Issue Date	Action	Description
EP-WCRR-WO-DOP-0233, R12	April 2009	Major	Revise procedure to incorporate the WCRRF TSR Revision 1 changes to the minimum staffing requirements which allows for the SOM to be on-call in the Operations Mode and now includes the requirements for the SOS (requires that the SOS be present at WCRRF during the Operations Mode and on-call in the Warm Standby Mode). This revision does not introduce any new hazards in this procedure. Update forms are required.
EP-WCRR-WO-DOP-0233, R13	May 11, 2009	Minor Revision	Revise procedure to provide guidance for the operator that the glovebox operations may continue after opening a < 5 gal unvented container without waiting 30 min., but the WCG electrical receptacles cannot be re-energized until 30 min. has elapsed since the unvented container was opened. Add additional instructions for creating loops within the document to address waste packages imbedded within other waste packages. This revision does not introduce any new hazards.
EP-WCRR-WO-DOP-0233, R14	June 12, 2009	Major Revision	Revise procedure to incorporate editorial corrections and to provide instructions for what to do when a shielded container is encountered containing radioactive material that exceeds the RWP limit. Add instructions to record the Waste Container Identification Number on the applicable attachments. This revision does not introduce any new hazards.
EP-WCRR-WO-DOP-0233, R15	November 24, 2009	Major Revision	Revise procedure to incorporate instructions for establishing, controlling, and the disposition of the Prohibited Item Collection Drum. Make editorial corrections as necessary. This revision does not introduce any new hazards.
EP-WCRR-WO-DOP-0233, R16	Approved for Training	Major Revision	Revise procedure to perform a pH test using pH strips and change “absorbent” to “approved absorbent” in Appendix 2. Make editorial corrections as necessary. This revision does not introduce any new hazards.
EP-WCRR-WO-DOP-0233, R17	February 18, 2010	Major Revision	Revise procedure to incorporate instructions for recording additional information for the prohibited items placed in the prohibited item collection drum. Incorporate process improvements (step sequences) and make editorial corrections as necessary. This revision does not introduce any new hazards. Incorporate the requirements of P300 and the hazards and controls from JHA 0008741 into this procedure.

HISTORY OF REVISIONS (continued)

Document Number	Issue Date	Action	Description
EP-WCRR-WO-DOP-0233, R18	March 22, 2010	Major Revision	Revise procedure to incorporate instructions for glovebox glove inspections and make editorial corrections as necessary. This revision does not introduce any new hazards.
EP-WCRR-WO-DOP-0233, R19	Training Only	Major Revision	Revise procedure to incorporate formality of operations into the procedure and incorporate the four parts of an integrated work document into the procedure in accordance with P300. Change title to WCRRF Waste Characterization Glovebox Operations. This revision is a total rewrite and revision bars have been omitted. This revision does not introduce any new hazards. This revision supersedes the following procedures: • EP-WCRR-WO-DOP-0223, Revision 4 • EP-WCRR-WO-DOP-0231, Revision 4 • EP-WCRR-WO-DOP-0232, Revision 8 • EP-WCRR-WO-DOP-0233, Revision 18
EP-WCRR-WO-DOP-0233, R20	October 27, 2010	Major Revision	Revise procedure to remove the requirements of SAC 5.10.1.2(1) in accordance with TSR Page Change 1.2, the fire blanket and MET-L-X is no longer a TSR requirement. The MET-L-X is being left as an administrative control. Make editorial corrections such as format changes. This revision does not introduce any new hazards.
EP-WCRR-WO-DOP-0233, R.21	November 2, 2010	Major Revision	Revise procedure to require that Building TA-50-69 is in the OPERATION mode for all activities in the procedure. Remove the Note in front of Step 4.3[7]. Add “approximately halfway” to Step 5.[9]. Change WARNING before Step 6.1[11] to indicate that there is no drum on the lift at this time. Revise Step 10.3[3] to remove requirement for testing a small portion of liquid and provide additional guidance for absorbing liquid. Make editorial corrections such as format changes. This revision does not introduce any new hazards.
EP-WCRR-WO-DOP-0233, R.22	November 8, 2010	Minor Revision	Revise procedure to modify hold tag note in Section 10.3 and modify step 10.3[2]. This revision does not introduce any new hazards.
EP-WCRR-WO-DOP-0233, R.23	February 8, 2011	Major Revision	Revise procedure to correct the TSR references and to allow the replacement of WCG bags in the WARM STANDBY mode. This revision does not introduce any new hazards.

HISTORY OF REVISIONS (continued)

Document Number	Issue Date	Action	Description
EP-WCRR-WO-DOP-0233, R.24	February 13, 2011	Minor Revision	Revise procedure to correct references and to provide clarification for the closure of a POC. Provide additional guidance for securing the horsetail during bag-in/bag-out operations. Make editorial corrections as necessary. This revision does not alter the purpose, scope, or intent of the original document. This revision does not introduce any new hazards.
EP-WCRR-WO-DOP-0233, R.25	April 13, 2011	Minor Revision	Revise procedure to incorporate process improvements. Incorporate instructions as to what to do if the parent drum closure ring cannot be reinstalled before lowering the parent drum. Make editorial corrections as necessary. This revision does not alter the purpose, scope, or intent of the original document. This revision does not introduce any new hazards.
EP-WCRR-WO-DOP-0233, R.26	April 18, 2011	Minor Revision	Revise procedure to provide instructions for loosening the nut on the closure ring bolt before lifting the waste drum up to the WCG. Make editorial corrections as necessary. This revision does not alter the purpose, scope, or intent of the original document. This revision does not introduce any new hazards.
EP-WCRR-WO-DOP-0233, R.27	June 9, 2011	Minor Revision	Revise procedure to provide instructions for inspecting drum lift hinge pins and attaching hinge pin retaining clips in Section 6.2; and add note that the retaining clips must be ML-2. Update equipment list to reflect ML-2 retaining clip. Make editorial corrections as necessary. This revision does not alter the purpose, scope, or intent of the original document. This revision does not introduce any new hazards.
EP-WCRR-WO-DOP-0233, R.28	August 10, 2011	Major Revision	This procedure is being revised to allow for bagging a POC onto the WCG, to correct the actions to be taken if a drum is stuck on the WCG drum lift, and to allow for processing waste at greater than 10 rem/hr. This last issue makes the activity a High/Complex Hazard Activity. The HA has been modified to allowed for the procedure to be performed as a Moderate or High/Complex Hazard Activity.
EP-WCRR-WO-DOP-0233, R.29	August 12, 2011	Minor Revision	Revise procedure to correct the high/complex activity hazard classification step in Attachment 1 to "> 10 rem/hr." This revision does not introduce any new hazards.

HISTORY OF REVISIONS (continued)

Document Number	Issue Date	Action	Description
EP-WCRR-WO-DOP-0233, Rev 29 IPC-1	August 29, 2011	IPC-1	Revised to change word in step 5.[11] from below to above and a caution and additional language to step 5[12] added ENSURE banding material is not placed around the hoop.
EP-WCRR-WO-DOP-0233, R.30	Training Only	Minor Revision	Revised to update requirements from page change 2.0 and 2.1 associated with STATIONARY Fire Watch in precautions, limitations and associated. Steps of the procedure when inventory is greater than >300 PE Ci. A STATIONARY FIRE WATCH is required in OPERATIONS and WARM STANDBY MODE when the WCG contains INVENTORY > 300 PE-Ci of EQUIVALENT COMBUSTIBLE WASTE. (SAC 5.10.1.7.1) and WCG SHALL be equipped with three 1-litre containers of carbon spheroids or MetL-X when the glovebox INVENTORY is >300 PE-Ci of EQUIVALENT COMBUSTIBLE WASTE (SAC 5.10.1.7.2), and WCG operators SHALL be trained in glovebox fire suppression techniques in order to extinguish small, early developing fires when processing INVENTORY > 300 PE-Ci of EQUIVALENT COMBUSTIBLE WASTE, in coordination with the STATIONARY FIRE WATCH, . This revision has not introduced any additional changes to the JHA.
EP-WCRR-WO-DOP-0233, R.31	Training Only	Minor Revision	Revise procedure to incorporate WCRRF TSR 2.0/2.1 IVR issues. Make editorial corrections as necessary. Revision does not introduce any additional hazards.
EP-WCRR-WO-DOP-0233, R.32	January 31, 2012	Minor Revision	Revise steps referencing 300 PE-Ci to add “equivalent combustible” after PE-Ci. Revision does not introduce any additional hazards.
EP-WCRR-WO-DOP-0233, R.33	April 5, 2012	Minor Revision	Revise procedure to incorporate instructions for the introduction of supplies into the WCG, for leaving a parent drum attached to the WCG overnight, and modify actions for a drum lift deficiency. Make editorial corrections such as correcting step numbering. Revision does not introduce any additional hazards.
EP-WCRR-WO-DOP-0233, R.34	May 24, 2012	Minor Revision	Revise procedure to provide guidance on simulating waste in a drum when obtaining radiation surveys and add the use of the Trolley Rail Clamp. Make editorial corrections such as correcting references. Revision does not introduce any additional hazards.

HISTORY OF REVISIONS (continued)

Document Number	Issue Date	Action	Description
EP-WCRR-WO-DOP-0233, R.35	July 2, 2012	Major Revision	Revised to separate verification steps from actual steps in Section 10.1 [10][D] and 10.1[10][E], 10.1[11][C], and reword Step 10.1[11][O] to read If directed by Supervision as a pre condition and Attachment 4 & 5 . Added steps for instructions for Administrative Lock Log, key, and lock Section 10. Added Steps to Section 4.1, 6.2, and 7.1 for using the Trolley Clamp Device. No additional hazards were identified during this revision. Rev bars in left column display locations of changes to the procedure.
EP-WCRR-WO-DOP-0233, R.36	August 1, 2012	Major Revision	Revised procedure to incorporate EP-SO-1708, and add steps to clarify the amount of absorbent needed when processing Nitrate Salts. Also added Appendix 6 Administrative Control Lock Log Sheet. No additional hazards were identified during this revision. Revision bars in the left column display location of changes in the procedure.
EP-WCRR-WO-DOP-0233, R.37	March 20, 2013	Major Revision	Revise procedure to allow flexibility with the processing of Nitrate Salts in order to permit flexibility with the amount of absorbent used. Make editorial corrections as necessary. Delete reference to the initiation of an NCR for issues associated with the waste material. No additional hazards were identified during this revision.

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1. PURPOSE

This procedure provides detailed instructions for Waste Characterization Glovebox (WCG) operations at the Waste Characterization, Reduction, and Repacking Facility (WCRRF).

TRU waste that has been identified as not satisfying Waste Isolation Pilot Plant (WIPP) acceptance criteria must be remediated to satisfy the WIPP criteria. Prohibited items must be removed or corrected and the container must also satisfy limits on the amount of radioactive material in each container. Containers that fail to satisfy the WIPP criteria maybe sent to WCRRF to be safely remediated in the WCG.

2. SCOPE

This procedure applies to personnel who perform WCG operations.

The Performance sections of this procedure may be performed independently or in conjunction with other Performance sections.

As used within this procedure a parent waste container is the originating waste container received at WCRRF for processing and a daughter drum is the resulting waste container packaged with the originating waste container waste. There may be multiple daughter drums.

This procedure addresses the following WCG activities:

- Preparation of parent waste containers
- Daughter drum, bagport, and gloveport bag-on/bag-off operations
- Parent drum bag-on/bag-off operations
- Parent drum WCG loading/unloading operations
- WCG waste processing

This procedure addresses the following activities for the complete processing and disposition of waste material within the WCG:

- Visual Examination (VE)
- Prohibited Item Dispositioning (PID)
- Pipe Overpack Component (POC)
- Waste Splitting
- Repackaging

EP-DIV-AP-0108, LTP Waste Record (TWSR/WDR) Initiation and Label Creation, is performed concurrently with this procedure in order to track waste containers in the Waste Management Database and to generate waste container labels.

2. SCOPE (continued)

The performance of this procedure may be classified as a Moderate or High/Complex Hazard activity based on the potential radiation levels encountered during the performance of this activity. To accommodate the two hazard classifications this document requires the identification of the potential radiation levels that may be encountered and documentation of the hazard classification level (moderate or high/complex).

3. PRECAUTIONS AND LIMITATIONS

- This procedure contains special procedure step markings. **($)** is used to identify steps that implement WCRRF Safety Basis requirements. Steps containing **($)** may not be changed without Engineering approval to ensure the safety envelope is maintained.

- To comply with the intent of the As Low As Reasonably Achievable (ALARA) Program, all personnel **SHALL** apply the principles of time, distance, and shielding when working with radiological materials.

- Avoid the open area of a shielded container to prevent an increased exposure to radiation which could result from the streaming of radiation while accessing shielded containers during the processing of waste.

- Activities, items, and containers **SHALL** satisfy approved design specifications, regulatory requirements, process-specific parameters, and procedural requirements. Activities, items, or containers that do not conform to the approved specifications and requirements are considered nonconforming and Nonconformance Reports (NCRs) **SHALL** be generated in accordance with P330-6, Nonconformance Reporting, as required.

- When a worker observes an unsafe condition or act that may pose an imminent danger or other safety concern/hazard, the worker has the authority and responsibility to inform the worker engaged in the work and request that the work activity be paused and/or stopped based on the risk posed to the individual, the employees, the environment, or the facility in accordance with P101-18, Procedure for Pause/Stop Work.

- Supervision **SHALL** be notified if this procedure cannot be performed as written.

- Not Applicable (N/A) is documented on the attachments during the performance of this procedure indicating information that is not required to be recorded.

3. PRECAUTIONS AND LIMITATIONS (continued)

- **($)** TRU WASTE CONTAINERS **SHALL** not be stacked and **SHALL** not be lifted higher than 4 ft, excluding the WCG drum lift and lifts during loading or unloading from delivery trucks. (SAC 5.10.2.2)

- Drums **SHALL** not be lifted greater than 4 ft during any operation involved in preparing the drum.

- This procedure **SHALL** not be used to prepare DEGRADED/LOSS OF INTEGRITY drums. DEGRADED/LOSS OF INTEGRITY drums are prepared in accordance with EP-WCRR-WO-DOP-0236, WCRRF Loading/Unloading SWB or 85-Gal Drum.

- **($)** Drums **SHALL** be verified to weigh less than 630 lb before lifting the drums using the WCG drum lift. (SR 4.5.1) Administratively drum weights **SHALL** be limited to 624 lb in order to take into consideration the uncertainties of the instrumentation.

- This procedure is to be performed only by Waste Handling Operators as qualified Glovebox Operators.

- To avoid pinch points, the drum lift pendant operator **SHALL** announce operation of the drum lift before commencing raising/lowering of a drum and that all personnel **SHALL** stand clear and to the side of drum movement.

- **($)** The facility must be in the OPERATION MODE to process waste in the WCG. (TSR 1.2)

- The approximate weight of load should be known before moving and the appropriate capacity lift selected. Be aware of uneven loading and shifts in the load when moving.

- Drums can have sharp edges and create pinch points when being moved – use appropriate gloves when handling drums.

- Use proper lifting techniques and buddy system and wear steel toed shoes when performing heavy lifting or movements and comply with the requirements of EP-DIV-Policy-20057, EWMO Health and Safety Policy-Manual Movement

3. PRECAUTIONS AND LIMITATIONS (continued)

- **($)** No flammable liquids or gases, and no combustible liquids with NFPA Flammability Rating greater than 1 **SHALL** be stored or used within BUILDING TA-50-69 when INVENTORY is in BUILDING TA-50-69 except three size 1 cylinders of P-10 gas and flammable or combustible liquids found in the TRU WASTE CONTAINER. (LCO 3.4.2)
- Portable high-efficiency particulate air (HEPA) filter ventilation equipment **SHALL** be removed from the WCG Exclusion Area after operations are complete. This limitation supports LCO 3.4.2.
- Due to the unique characteristics of Pu-238, diligent glove surveys should be performed before and after handling Pu-238, as well as periodic glovebox wipe downs.
- All operators involved in the execution of this procedure must be qualified as Waste Handling Operators.
- Fire Patrol or Stationary Fire Watch **SHALL** be established in accordance with the applicable Technical Safety Requirements and identified in EP-DIV-AP-0120, EWMO Watchbill Administration.
- STATIONARY FIRE WATCH **SHALL** be performed in accordance with EP-DIV-AP-0120, EWMO Watchbill Administration.
- **($)** WCG **SHALL** be equipped with three 1-liter containers of carbon spheroids or Met-L-X when the glovebox INVENTORY is > 300 PE-Ci of EQUIVALENT COMBUSTIBLE WASTE. (SAC 5.10.1.7.1)
- An administrative control will ensure that the WCG will be equipped with three 1-liter containers of carbon spheroids or MET-L-X to prevent the potential spread of a fire in the glovebox regardless of the inventory quantity in the WCG.
- **($)** A STATIONARY FIRE WATCH **SHALL** be in place when the WCG contains INVENTORY > 300 PE-Ci of EQUIVALENT COMBUSTIBLE WASTE, in order to extinguish small, early developing fires, in coordination with WCG operators. (SAC 5.10.1.7.2)
- When processing a parent drum if an item is encountered to be too large or heavy to handle supervision is to be notified.

3. PRECAUTIONS AND LIMITATIONS (continued)

- Use caution when performing glovebox operations. Operations may involve handling of sharp objects, applying force to objects with tools, lifting heavy materials or items.
  - The glovebox gloves **SHALL** have cut resistant (e.g., leather, or HexArmor®) gloves over them during glovebox operations when handling sharp objects or opening/closing waste containers.
  - Use the two-man rule when lifting heavy materials or items.
  - Cut or apply force away from hands and arms.
  - Use approved tools and techniques.
  - Tools **SHALL** be in good working order.

- **($)** WCG operators **SHALL** be trained in glovebox fire suppression techniques in order to extinguish small, early developing fires when processing INVENTORY > 300 PE-Ci of EQUIVALENT COMBUSTIBLE WASTE, in coordination with the STATIONARY FIRE WATCH. (SAC 5.10.1.7.3)

- Unvented, sealed waste packages are those waste packages that have a positive locking mechanism, such as a gasket with drum closure ring or a screw top lid (with no other openings) to seal the lid to the waste package.

- **($)** When breaching (opening) unvented, sealed waste packages in the WCG the following requirements **SHALL** be satisfied:
  - Non-sparking tools and processes **SHALL** be used, (SAC 5.10.1.6.1)
  - Electrical receptacles within the WCG **SHALL** be de-energized before opening the waste package and remain de-energized for a minimum of 30 minutes after removing the lid and lid restraining device. (SAC 5.10.1.6.2) and (SAC 5.10.1.6.3)

- **($)** Before breaching (opening)an unvented, sealed 5- to 30-gal waste packages in the WCG a lid restraining device **SHALL** be inspected for degradation and properly installed (SAC 5.10.1.5.1), and WCG operations **SHALL** be ceased for a minimum of 30 minutes following the removal of the waste package lid and lid restraining device (breaching). (SAC 5.10.1.5.2)

- **($)** When processing a positively sealed 30- to 5-gallon metal WASTE PACKAGE in the WCG, the parent 55-gallon drum bagged-on to the WCG and metal WASTE PACKAGE **SHALL** be grounded when the metal WASTE PACKAGE is breached and for 30 minutes after the removal of the lid and lid restraining device. (LCO 3.6)

3. PRECAUTIONS AND LIMITATIONS (continued)

- Personnel **SHALL** be aware of heat and cold stress indicators and observe co-workers in accordance with the Thermal Stress Awareness Course.

- Personnel protective equipment (PPE) **SHALL** be worn (e.g., safety shoes, cut resistance gloves, and respirator) as required by Industrial Hygiene/Health and Safety and in accordance with the RWP.

- Sharp objects **SHALL** be covered and properly stored when not in use. Wear cut/puncture resistant glove (e.g., leather) and cut away from your body when in use.

- All sharp objects that are introduced inside the glovebox **SHALL** be properly identified and stored when not in use in accordance with EP-DIV-AP-20047, LTP Glovebox/Glovebag and Glove Safety Program.

- Routine inspection of glovebox gloves **SHALL** be conducted in accordance with EP-DIV-AP-20047 and this procedure.

- To prevent personnel injury due to ergonomic, pinch point, and other general hazards, personnel **SHALL** maintain an awareness of the working environment and task activities and use good work practices and techniques, skill of craft, good ergonomic practices, and minimize time in awkward/uncomfortable positions.

- Spark-producing and non-sparking tools **SHALL** be distinguished from each other. Spark-producing tools are to be set aside in the WCG, and not handled, when non-sparking tools are required.

- A cordless drill may be used to open a parent drum. This will minimize overextending glovebox gloves and potential damage (i.e., tearing a glove) when using a ratchet. The cordless drill is considered to be a spark-producing tool and is to be placed aside in the WCG, and not handled, when non-sparking tools are required.

- Charging of portable electric equipment in the WCG **SHALL** not be performed when there is INVENTORY in the WCG.

- Charging of battery operated equipment external to the WCG **SHALL** not be charged within the WCG exclusion zone.

3. PRECAUTIONS AND LIMITATIONS (continued)

- If receptacle inside the WCG or in the WCG exclusion zone is used, the equipment being plugged in must be in the OFF position before inserting or removing the plug at the receptacle.

- Prohibited items are documented by two distinct processes. One is through the use of the fast scan process, indicated by the GREEN hold tag. The second is through the use of CCP's NCR, indicated by a RED hold tag.

- If during a Green Drum Campaign a suspected special shape is identified while performing VE, Repackaging, or PID, refer to EP-WCRR-RM-AOP-0208, Special Shapes on how to handle the suspected special shape.

- Waste placed into daughter drums or Pipe Overpack Containers (POCs) must be from a single parent drum.

- Based on waste acceptance criteria, Class 1 oxidizers such as nitrates, and reactive flammables such as lithium metal or hydrides are prohibited items in the WCRRF.

- Liquids removed from a parent drum must be remediated (absorbed) inside of a new container.

- Storage of drum lid restraints when <u>not</u> in use **SHALL** be such that the drum lid restraints are protected from degradation (e.g., daughter drum).

- Avoid slips, trips, and falls by wearing the proper footwear with slip-resistant soles and using handrails when using stairs. Use established pathways when available and avoid walking on uneven or unstable surfaces.

- Glass sample vials may contain residual granular plutonium hydride which can generate sparks when subjected to mechanical agitation. To reduce the possibility of breaking a glass sample vial and the generation of sparks, glass sample vials **SHALL** be handled with care and void volume reduction activities **SHALL** be performed without excessive force. (EP-DIV-REPORT-09)

- The fire protection system sprinkler head located in the WCG is a water source that if activated (inadvertently or as a result of an actual WCG fire) would result in the spread of radiological contamination. Contact with the sprinkler head during waste processing is to be avoided in order to reduce the possibility of the inadvertent initiation of water flow into the WCG.

3. PRECAUTIONS AND LIMITATIONS (continued)

- **($)** No combustibles **SHALL** be stored within the waste characterization glovebox (WCG) exclusion zone. The WCG exclusion zone is 10 ft around the WCG, up to GBE, or up to the walls of Room 102, whichever is less. (LCO 3.4)

  The following are excluded from the above limitations of LCO 3.4
  - INVENTORY that is in the WCG or staged in BUILDING TA-50-69.
  - Combustible components of support equipment (e.g., wiring insulation, operator platforms and rubber mats) within the WCG Exclusion Zone and associated with WCG processing.
  - Drum liners or wrapping around DEGRADED/LOSS OF INTEGRITY drums that are inside BUILDING TA-50-69 being loaded and working amounts of material necessary to complete bag on/off operations such as tape, cheese cloth, and extra operator gloves.
  - Hydraulic fluid within the engineered, closed-loop, containment systems.
  - Combustible components associated with a forklift.

4. PREREQUISITES ACTIONS

NOTE *The listed prerequisite actions may be completed in any order.*

4.1 Planning and Coordination

Supervisor or designee

[1] **ENSURE** that this procedure is the latest revision, and **IDENTIFY** this document as Working Copy or Information Only on the Title Page.

[2] **ENSURE** that the performance of this procedure has been scheduled on the WCRRF schedule.

[3] **ENSURE** that a Radiological Work Permit (RWP) is obtained in accordance with P121, Radiation Protection, as applicable.

[4] **ENSURE** that a pre-job briefing is conducted for all personnel involved in the performance of this procedure, in accordance with EP-DIV-AP-0112, EWMO Pre-Job Briefings, and that the pre-job briefing included weather conditions, communication requirements, hazards/controls and emergency response actions.

[5] **ENSURE** that, as a minimum, the following personnel trained in the use of this procedure are available for performance of this procedure, as required:

- Two Radiological Control Technician (RCT)
- Four Waste Handling Technician
- One Supervisor (e.g., Shift Operations Supervisor or Person-In-Charge)
- One Central Characterization Project (CCP) representative [Visual Examination (VE) only]
- **($)** STATIONARY FIRE WATCH (greater than 300 PE-Ci equivalent combustible waste only) (SAC 5.10.1.7.2)

4.1 Planning and Coordination (continued)

[6] **IF** performing Section 10, WCG Waste Processing,
THEN:

[A] **ENSURE** that the waste containers to be processed have been evaluated in accordance with EP-DIV-AP-0107, WDP TRU Waste Container Management Operations, and that a copy of the WDP Waste Remediation Safety Evaluation Data Sheet (EP-DIV-AP-0107 Attachment 1) has been obtained for each waste container to be processed.

[B] **INITIATE** a copy of Attachment 1, WCRRF WCG Waste Processing Data Sheet for each waste container to be processed, and **DOCUMENT** the following information:

- Parent Waste Container Number (record on each page of Attachment 1)
- Processing activity to be performed in accordance with EP-DIV-AP-0107 (i.e., > 190 mrem/hr, PID, Split, or Repack)
- Prohibited Items, if present
- Parent waste container RCRA Designations

[C] **ATTACH** a copy of the WDP Waste Remediation Safety Evaluation Data Sheet (EP-DIV-AP-0107 Attachment 1) to Attachment 1.

[7] **DETERMINE** the hazard classification of the activity to be performed using the following Anticipated Extremity Radiation Dose Rate criteria, and **CHECK** (√) the applicable box on Attachment 1:

- Moderate Hazard - ≤ 10 rem/hr
- High/Complex Hazard - > 10 rem/hr

[8] **OBTAIN** a blank Administrative Control Lock Log Sheet form 10.4 of EP-DIV-AP-0117, lock, and key from the WCRRF Operations Center. (e.g., See Appendix 6, Administrative Control Lock Log Sheet)

4.2 Materials and Equipment

4.2.1 Special Tools and Equipment

NOTE *The list of special tools and equipment is not an all inclusive list and additional tools and equipment may be used as necessary.*

Waste Handling Technician or Supervision

[1] **ENSURE** that the following special tools and equipment are available, as required:

- Safety glasses with side shields
- Permanent marker
- Cut resistant (e.g., HexArmor™, leather, or leather palm mechanics) gloves
- Drum dolly
- Two-wheel dolly
- Portable HEPA-filter exhaust system
- Cutting tool (e.g., utility knife or PVC cutter)
- WCG metal bucket
- Tools for separating and processing waste
- Non-sparking tools for separating and processing waste
- Banding tool
- ML-2 drum lift hinge pin retaining clips (e.g., E-clips)
- Removable lead glass windows
- Lead blankets

4.2.2 Consumables

NOTE *The list of consumables is not an all inclusive list and additional consumables may be used as necessary.*

Waste Handling Technician or Supervision

[1] **ENSURE** that the following consumables are available, as required:

- Bag-off bags (filtered or unfiltered)
- Tape (duct or vinyl)
- Binding ties
- Nitrile gloves
- Plastic waste bags
- Drum labels
- Chemwipes or equivalent
- Wire rope inspection cloth (e.g., cheese cloth)

4.2.2 Consumables (continued)

- Fantastik or equivalent
- Banding material
- Banding buckles
- Kitty Litter/Zeolite® absorbent
- 3 Liters Carbon Spheroids or MET-L-X
- Litmus paper
- Lead or lead equivalent WCG gloves
- Velcro®

4.2.3 Measurement and Test Equipment (M&TE)

Waste Handling Technician or Supervision

[1] **ENSURE** that the following measuring and test equipment are available, as required:
- Platform scale
- WCG scale

4.3 Field Preparation

Waste Handling Technician or Supervision

[1] **($) IF** performing any section except Section 8.1, Bag On Daughter Drum, Bagport, or Gloveport, without bagging in waste material,
THEN ENSURE that Building TA-50-69 is in the OPERATION MODE in accordance with EP-WCRR-FO-DOP-0201, WCRRF and Building TA-50-69 TSR Mode Change, and **CHECK** (√) OPERATIONS on Attachment 1, WCRRF WCG Waste Processing Data Sheet. (TSR 1.2)

[2] **($) IF** performing Section 8.1,
AND waste material is **NOT** being introduced into the WCG,
THEN ENSURE that Building TA-50-69 is in the OPERATION or WARM STANDBY MODE in accordance with EP-WCRR-FO-DOP-0201, and **CHECK** (√) WARM STANDBY on Attachment 1. (TSR 1.2)

[3] **ENSURE** that the WCRRF Operations Center has authorized the performance of this procedure.

4.3 Field Preparation (continued)

[4] **IF** performing one of the following sections:
Section 5, Parent Waste Container Preparation,
Section 6, WCG Parent Drum Loading/Unloading,
Section 10, WCG Waste Processing,
THEN:

[A] **ENSURE** that the weekly Platform Scale calibration verification has been performed in accordance with EP-WCRR-WO-DOP-0239, Verifying WCRRF Scales.

[B] **RECORD** the platform scale serial number and calibration due date on Attachment 1.

[C] **IF** the platform scale exceeds the calibration due date,
THEN NOTIFY the WCRRF Operations Center of the discrepancy, and
REQUEST the applicable actions.

[5] **IF** performing Section 10,
THEN:

[A] **ENSURE** that preprinted Item ID Number labels and PCB Item Number labels are obtained from the Waste Management Coordinator.

[B] **($) VERIFY** that WCG contains three 1-Liter containers of carbon spheroids or MET-L-X, and **CHECK** (√) YES or NO on Attachment 1. (SAC 5.10.1.7.1)

[C] **ENSURE** that the required number of daughter drums have been prepared in accordance with EP-WCRR-WO-DOP-0221, Preparing and Closing 55-gal Daughter Drum Assemblies.

[D] **REVIEW** Appendix 2, WCRRF Allowable Container Types For Remediation.

[E] **ENSURE** that a prohibited item collection drum is available.

[6] **($) IF** performing Section 10,
AND the parent container TRU-waste material inventory value is greater than 300 PE-Ci equivalent combustible waste,
THEN ENSURE a STATIONARY FIRE WATCH has been established, and
DOCUMENT (Initial and Date) on Attachment 1. (SAC 5.10.1.7.2)

4.3 Field Preparation (continued)

NOTE *The Technical Safety Requirements for WCRRF specify that a critical lift plan is required for lifts and forklift movements involving DEGRADED or LOSS OF INTEGRITY drums. Additionally a critical lift plan is required in accordance with the requirements of P101-25, Cranes, Hoists, Lifting Devices, and Rigging Equipment, such as when the weight of the parent drum is greater than 75% of the WCG drum lift rated capacity (624 lb x .75 = 468 lb).*

[7] **IF** performing Section 6,
THEN:

[A] **DETERMINE** whether the parent drum is a degraded or loss of integrity drum, or whether the parent drum weight is greater than 468 lb but less than or equal to 624 lb, and **CHECK** (√) YES or NO on Attachment 1.

NOTE *The Person-in-Charge (PIC) appointed for the safe handling of critical loads and for the safe handling of non-critical items in, around, or above spaces in which critical items are located **SHALL** be trained as a qualified crane operator and rigger.*

[B] **($) IF** the parent drum is a degraded or loss of integrity drum, (AC 5.10.3.1)
OR the parent drum weight is greater than 468 lb but less than or equal to 624 lb,
THEN:

[a] **IDENTIFY** and **RECORD** the name of the person who will serve as the Qualified Crane Operator and Rigger PIC for lifting and forklift movements of degraded or loss of integrity drums on Attachment 2, WCRRF WCG Critical Lift Plan Concurrence Sheet.

[b] **ENSURE** that the Qualified Crane Operator and Rigger PIC performs a pre-job briefing that includes a review of Appendix 1, Waste Drum Critical Lift Plan, and **DOCUMENT** the review on Attachment 2.

4.3 Field Preparation (continued)

WARNING

1. **Performance of a pre-operational inspection of the WCG drum lift (Form 1489), SHALL ensure that the entire length of the drum lift cable is inspected. This will require that the drum lift be exercised from the full up to the full down positions.**

2. **The drum lift pendant operator is to announce operation of the lift before raising or lowering the drum and all personnel are to stand clear and to the side of drum movement in order to prevent personnel injuries.**

NOTE *The inspection criteria identified as N/A on Appendix 3, Example Preoperational Inspection record for Overhead Cranes and Hoists, are not required to be performed.*

[C] **IF** performing Section 6 for the first time for the day,
THEN PERFORM a pre-operational inspection of the WCG drum lift components in accordance with P101-25 by completing the applicable sections of Form 1489.

[8] **IF** performing WCG operations (e.g., Section 10, WCG Waste Processing),
THEN:

[A] **DETERMINE** whether the WCG glove change due date marked on each WCG gloves has been exceeded.

[B] **IF** the WCG glove change due date marked on the WCG glove has been exceeded,
OR a WCG glove or bag-in/bag-out bag fails the inspection,
THEN:

[a] **STOP** operations.

[b] **IDENTIFY** the WCG glove or bag-in/bag-out bag as out-of-service.

[c] **NOTIFY** supervision and an RCT for the applicable actions in accordance with EP-DIV-AP-20047.

4.3 Field Preparation (continued)

NOTE *WCG gloves with a glove change due date that has been exceeded are not required to be inspected in accordance with the following step.*

[C] **INSPECT** the internal and external surfaces of each WCG glove and bag-in/bag-out bag for the following:

- Layer separations
- Cuts
- Natural degradation
- Cracks
- Stiffness
- Punctures
- Splits
- Obvious physical signs of deterioration
- Discoloration
- Surface deposits/debris
- Radiological contamination (internal only)
- Exposed color of the lead liner, if present

[D] **CHECK** (√) SAT or UNSAT on Attachment 1, and **DOCUMENT** the completion of the WCG glove inspection by signing and dating on Attachment 1.

[9] **ENSURE** that glovebox inspections have been completed in accordance with EP-DIV-AP-20047.

[10] **IF** Section 10.4, Waste Splitting Activities, is to be performed,
THEN ENSURE that Low-Level Waste Characterization personnel are available, as necessary.

[11] **IF** this procedure is being performed as a High/Complex Hazard activity as determined in Section 4.1, Planning and Coordination,
THEN:

[A] **ENSURE** that the temporary lead glass windows have been attached (e.g., Velcro®) to the inside of the applicable WCG windows.

[B] **ENSURE** that lead or lead equivalent gloves have been installed on the WCG gloveports.

[C] **ENSURE** that lead blankets have been placed along the bottom of the WCG.

4.3 Field Preparation (continued)

NOTE *The following step may be performed out of sequence and may be performed in Building TA-50-37 (Artic).*

[12] **IF** a POC is to be used,
AND the POC is to be bagged onto the WCG,
THEN:

[A] **OBTAIN** a POC bag-on bag.

[B] **APPLY** vinyl tape to the POC bag-on bag, with a smear pad centered on the tape, over the filter.

[C] **INFLATE** the POC bag-on bag with air from a compressed air source.

[D] **INSPECT** the POC bag-on bag for damage, cuts, or leaks by looking, listening, and feeling.

[E] **STRETCH** the POC bag-on bag's bungee cord, and **INSPECT** the bungee cord for cuts or damage.

[F] **IF** the POC bag-on bag or bungee cord fails the inspection,
THEN:

[a] **IDENTIFY** (e.g., tag or mark) the failed item indicating that item is defective.

[b] **SEGREGATE** the failed item in order to prevent the item from being used.

NOTE 1 *A Quality Assurance (QA) representative may be contacted for assistance with the NCR process.*

NOTE 2 *The NCR may be initiated at an operationally convenient time.*

[c] **ENSURE** that an NCR is initiated in accordance with P330-6, Nonconformance Reporting, as required.

[d] **REPLACE** the defective item.

[e] **GO** to Step 4.3[12][A].

4.3 Field Preparation (continued)

NOTE *The following step may be performed out of sequence to allow for the bulk inspection of liners in order to improve operational efficiencies.*

[G] **OBTAIN** and **VISUALLY INSPECT** a POC plastic/cardboard liner ensuring the exterior surfaces are smooth.

[H] **IF** POC plastic/cardboard liner fails the inspection,
THEN:

[a] **IDENTIFY** (e.g., tag or mark) the POC plastic/cardboard liner indicating that the POC plastic/cardboard liner is defective.

[b] **SEGREGATE** the POC plastic/cardboard liner in order to prevent the item from being used.

NOTE 1 *A Quality Assurance (QA) representative may be contacted for assistance with the NCR process.*

NOTE 2 *The NCR may be initiated at an operationally convenient time.*

[c] **ENSURE** that an NCR is initiated in accordance with P330-6, Nonconformance Reporting, as required.

[d] **REPLACE** the POC plastic/cardboard liner.

[e] **GO** to Step 4.3[12][G].

[I] **PLACE** the POC plastic/cardboard liner into the POC bag-on bag.

[J] **PLACE** the POC plastic/cardboard liner and bag into the POC pipe component.

[K] **ENSURE** that excess POC bag-on bag is placed inside of the POC pipe component.

[L] **PLACE** the POC pipe component lid on the POC pipe component and **TIGHTEN** the lid sufficiently to hold the lid on the POC pipe component.

[M] **PLACE** the POC drum lid on the POC drum and **TIGHTEN** the closure ring bolt sufficiently to hold the drum lid in place.

5. PERFORMANCE—PARENT WASTE CONTAINER PREPARATION

This section is a stand-alone section and may be performed independently of or in conjunction with other Performance sections.

NOTE *Radiological surveys may be performed as determined necessary [e.g., by an RP representative (e.g., RCT)] anytime during the performance of this procedure.*

Waste Handling Technician

[1] **ENSURE** that all applicable prerequisite actions have been completed.

NOTE *Steps 5.[2] through 5.[4] may be performed in Building TA-50-37 (Artic).*

[2] **OBTAIN** an unfiltered bag-off bag or a filtered bag-off bag, and **TAPE OVER** the inside and outside filter openings of a filtered bag-off bag, as applicable.

CAUTION

Care should be exercised when not to over inflate the filtered bag. Apply only enough air to inspect for leaks. (pins holes, leakage around filter attachment points.). Failure to comply with this caution could lead to overstressing the filter and possible pre-damage to the filtered bag.

[3] **INFLATE** the filtered or no filtered bagout bag carefully and slowly while sealing the bag (i.e. securing opening with hand).

[4] **INSPECT** the bag-off bag for damage or cuts examining by sight, sound, and feel.

[5] **IF** the bag-off bag does **NOT** hold the air,
THEN:

[A] **IDENTIFY** (e.g., tag or mark) the bag-off bag indicating that the bag-off bag is defective.

[B] **SEGREGATE** the bag-off bag in order to prevent the item from being used.

NOTE *The NCR may be initiated at a time that is operationally convenient.*

[C] **ENSURE** that an NCR is initiated in accordance with P330-6, Nonconformance Reporting.

[D] **GO** to Step 5.[2].

5. PERFORMANCE—PARENT WASTE CONTAINER PREPARATION (continued)

[6] **TAPE** the drum closure ring bolt in order to prevent tearing or cutting the unfiltered bag-on bag.

[7] **IF** the drum to be processed is **NOT** a degraded or loss of integrity drum, **THEN CUT** off the bottom of a bag-off bag approximately 27 to 30 inches from the bottom of the bag-off bag in order to create a bag-off sleeve.

[8] **SLIDE** the bag-off bag over the top of the drum down to between the second and third rolling hoops (from the top) ensuring that the first and second rolling hoops (from the top) are covered.

NOTE *Enough room must be left between the tape and the drum closure ring bolt in order for the drum closure ring to be removed without damaging the bag-on bag.*

[9] **WRAP** tape (vinyl or duct) around the container so that the bag-off bag is tightly bound approximately halfway between the second and third rolling hoops near the top of the drum and overlapping the bag-off bag onto the drum.

[10] **ENSURE** that the drum wrapping (e.g., tape and bag-off bag) is airtight and no air pockets are present.

[11] **WRAP** duct tape around the drum just below the top rolling hoop.

CAUTION

Improper placement of the banding material over the drum hoop may result in movement and banding material slipping down the drum. Do <u>not</u> place banding material over drum hoop.

[12] **PLACE** banding material around the drum over the installed duct tape and **ENSURE** banding material is <u>not</u> placed over the drum hoop.

[13] **TIGHTEN** and **BUCKLE** the banding material with a banding tool.

[14] **COVER** the banding buckle with duct tape to prevent bag tears.

[15] **ROLL DOWN** the remaining bag-off bag around drum.

5. PERFORMANCE—PARENT WASTE CONTAINER PREPARATION (continued)

NOTE *The following two steps may be performed just before loading the drum on the WCG drum lift.*

[16] **IF** items (e.g., gloves or tools) are to be bagged into the WCG with the Prepared Parent Drum,
THEN SECURE the items to the top of the Prepared Parent Drum.

[17] **WEIGH** the Prepared Parent Drum with items secured to the drum top, as applicable, and **RECORD** the Prepared Parent Drum Weight on Attachment 1.

[18] **IF** the Prepared Parent Drum Weight is greater than or equal to 624 lb,
THEN:

[A] **STOP** the work activity.

NOTE *The WCRRF Operations Center notifies the Transuranic (TRU) Waste Disposition Project (WDP) Operations Manager (OM) or designee and the Shift Operations Supervisor (SOS) of the discrepancy.*

[B] **NOTIFY** the WCRRF Operations Center of the discrepancy.

[C] **REQUEST** the applicable actions from the SOS or designee.

[19] **RECORD** the following information on the parent drum lid using a permanent marker:
- Parent drum number
- Parent drum weight
- Date
- Platform scale serial number
- Platform scale calibration due date

6. PERFORMANCE—WCG PARENT DRUM LOADING/UNLOADING

NOTE *Radiological surveys may be performed as determined necessary [e.g., by an RP representative (e.g., RCT)] anytime during the performance of this procedure.*

6.1 WCG Drum Lift Daily Inspection

This sub-section is a stand-alone sub-section and may be performed independently of or in conjunction with other sub-sections.

This inspection is to be performed once each work day before the WCG drum lift is to be used to hoist a waste drum.

NOTE *The individual performing the WCG drum lift inspection **SHALL** be at a minimum a certified Qualified Crane Operator.*

Waste Handling Technician

[1] **OBTAIN** and **REVIEW** the previously completed copy of Attachment 3, WCRRF WCG Drum Lift Inspection Data Sheet.

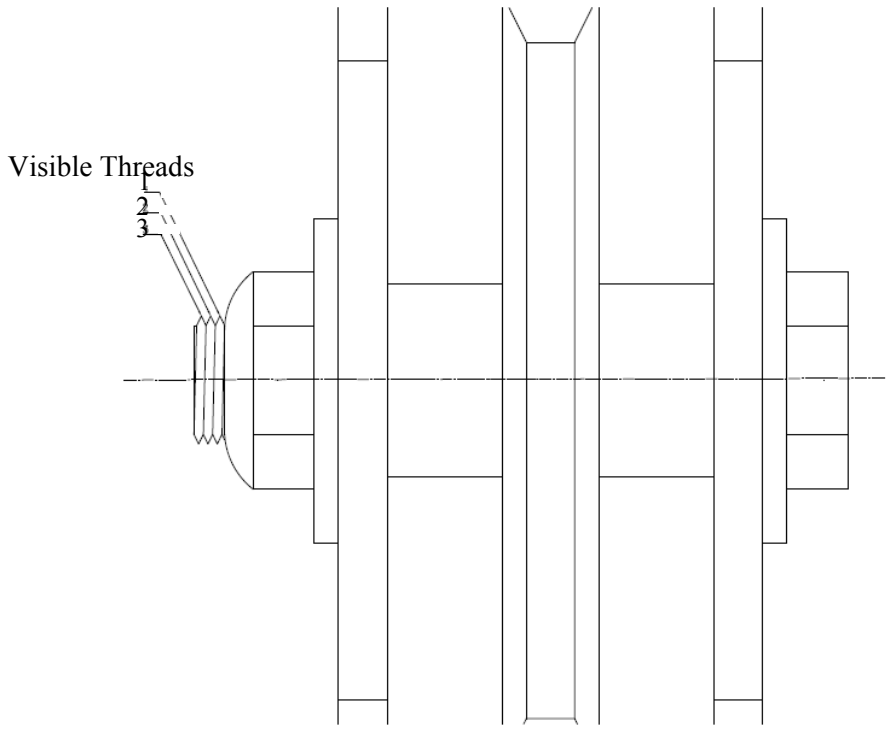
[2] **OBTAIN** a new copy of attachment 3, and **RECORD** the inspection date on Attachment 3.

[3] **RECORD** any previously identified wire rope damage in Table 3-1 or Table 3-2, or N/A as applicable, on Attachment 3, and **CHECK** (√) applicable box in the Previously Identified Damage column in Table 3-1 or Table 3-2, as applicable, on Attachment 3.

[4] **RECORD** the number of threads exposed out the end of the shaft bolt locknut on the upper, middle, and lower pulley shaft bolts from the previous inspection on Attachment 3.

6.1 WCG Drum Lift Daily Inspection (continued)

[5] **DETERMINE** and **RECORD** on Attachment 3 the current number of threads exposed out the end of the shaft bolt locknut on the upper, middle, and lower pulley shaft bolts (see illustration below).



[6] **DETERMINE** whether the shaft bolt end is flush with or extends out of the outer end of the shaft bolt locknut, and **CHECK** (√) YES or NO on Attachment 3.

[7] **INSPECT** the upper, middle, and lower pulley shaft bolts for any signs of wear between the shaft bolt and the support flanges (e.g., shaft not perpendicular to the flange plate), and **CHECK** (√) SAT or UNSAT for each shaft bolt on Attachment 3.

WARNING

The drum lift pendant operator is to announce operation of the lift before raising or lowering the drum and all personnel are to stand clear and to the side of drum movement in order to prevent personnel injuries.

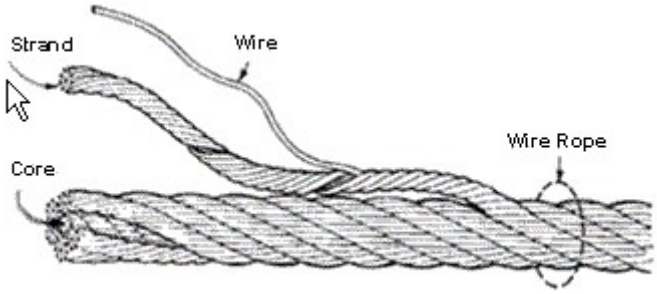
[8] **ENSURE** that the drum trolley is in the full-down position.

6.1 WCG Drum Lift Daily Inspection (continued)

WARNING

Cut resistant (e.g., leather or leather palm mechanics) gloves are to be worn while inspecting the drum trolley wire rope and the cloth is to be held loosely in order to prevent skin punctures resulting from broken wires of the wire rope.

[9] **INSPECT** the entire length of the exposed, upper wire rope from the top of the drum trolley to the wire rope hoist drum by loosely gripping the cloth (e.g., cheese cloth) while sliding the cloth along the length of the wire rope, and **CHECK** (√) YES or NO to indicate whether any new damage is identified on Attachment 3 to indicate whether any upper wire rope damage is discovered.



[10] **IF** the cloth snags on the wire rope,
THEN VISUALLY INSPECT the wire rope snag location for damage, and **DOCUMENT** the results of the inspection including the location of the damage in Table 3-1, Upper Wire Rope Damage, on Attachment 3.

WARNING

The drum lift pendant operator is to announce operation of the lift before raising or lowering the lift and all personnel are to stand clear and to the side of drum movement in order to prevent personnel injuries.

[11] **ENSURE** that the drum trolley is in the full-up position.

6.1 WCG Drum Lift Daily Inspection (continued)

WARNING

Cut resistant (e.g., leather or leather palm mechanics) gloves are to be worn while inspecting the drum trolley wire rope and the cloth is to be held loosely in order to prevent skin punctures resulting from broken wires of the wire rope.

[12] **INSPECT** the entire length of the exposed, lower wire rope from the top of the drum trolley to the wire rope hoist by loosely gripping the cloth (e.g., cheese cloth) while sliding the cloth along the length of the wire rope, and **CHECK** (√) YES or NO to indicate whether any new damage is identified on Attachment 3 to indicate whether any lower wire rope damage is discovered.

[13] **IF** the cloth snags on the wire rope,
THEN VISUALLY INSPECT the wire rope snag location for damage, and **DOCUMENT** the results of the inspection including the location of the damage in Table 3-2, Lower Wire Rope Damage, on Attachment 3.

[14] **IF** there is more than <u>one</u> wire break within a 2-in. span along the wire rope,
THEN:

[A] **CHECK** (√) UNSAT for the wire rope inspection on Attachment 3.

[B] **GO** to Step 6.1[16].

[15] **CHECK** (√) SAT for the wire rope inspection on Attachment 3.

[16] **IF** UNSAT was checked (√) for any of the WCG inspections,
THEN:

[A] **STOP** the work activity.

[B] **SIGN** and **DATE** on Attachment 3.

NOTE *The WCRRF Operations Center notifies the WDP SOM or designee and the Cognizant System Engineer (CSE) of the discrepancy.*

[C] **NOTIFY** the WCRRF Operations Center of the discrepancy.

[D] **DOCUMENT** the notifications and discrepancies in the Comments section of Attachment 3.

6.2 Parent Drum Loading

This sub-section is a stand-alone sub-section and may be performed independently of or in conjunction with other sub-sections.

Waste Handling Technician

[1] **ENSURE** that all applicable prerequisite actions have been completed.

RCT

[2] **PERFORM** radiological surveys as necessary during the waste container handling evolutions.

Waste Handling Technician

[3] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

[4] **RECORD** the Processing Date (current date) on Attachment 1, WCRRF WCG Waste Processing Data Sheet.

[5] **IF** lead blankets are to be used as radiological shielding on the parent drum,
THEN:

[A] **WEIGH** the lead blankets, as necessary, and **RECORD** the lead blanket's weight on Attachment 1.

[B] **SUM** the Lead Blanket Weights and the Prepared Parent Drum Weight, and **RECORD** the Total Prepared Parent Drum Weight (drum and lead blankets) on Attachment 1.

[C] **GO** to Step 6.2[7].

[6] **RECORD** the Total Prepared Parent Drum Weight (parent drum weight) on Attachment 1.

[7] **($) DETERMINE** whether the Total Parent Drum Weight is less than 624 lb, and **CHECK** (√) SAT or UNSAT for the Total Parent Drum weighing less than 624 lb on Attachment 1. (SR 4.5.1)

6.2 Parent Drum Loading (continued)

[8] **IF** the Total Parent Drum Weight is greater than or equal to 624 lb,
THEN:

[A] **STOP** the work activity.

NOTE *The WCRRF Operations Center notifies the TRU WDP OM or designee and the SOS of the drum status.*

[B] **NOTIFY** the WCRRF Operations Center, of the drum status.

[C] **REQUEST** the applicable actions from the SOS or designee.

NOTE *P101-25 and Appendix 1, Waste Drum Critical Lift Plan, provide instructions for a drum critical lift.*

[9] **($) IF** the prepared parent drum is a degraded or loss of integrity drum, (AC 5.10.3.1)
OR the parent drum weight is greater than 468 lb,
THEN ENSURE that the prepared parent drum is loaded in compliance with Appendix 1 and this sub-section.

[10] **ENSURE** that the drum lift key has been obtained from the key box.

[11] **ENSURE** that the drum lift key has been inserted, and has been turned to ON in order to establish power to the drum lift.

[12] **ENSURE** that the drum lift has been lowered to the lower limit switch or until the bellyband of the lift cradle can grasp the drum evenly using the drum lift pendent.

[13] **IF** the WCG parent drum port cover is present,
THEN REMOVE the WCG parent drum port cover, and **SET** the WCG parent drum port cover aside.

[14] **ENSURE** that respiratory protection is worn as required by the applicable RWP.

[15] **LOOSEN** the drum closure ring bolt jam nut, as necessary, <u>without loosening the closure ring bolt</u>.

6.2 Parent Drum Loading (continued)

NOTE *The retaining clip (e.g., E-clip) must be an ML-2 component.*

[16] **INSPECT** the four drum lift hinge pins to determine whether all hinge pins have retaining clips (e.g., E-clips) attached to the bottom of the hinge pins.

[17] **IF** a retaining clip is missing from a hinge pin,
THEN:

[A] **STOP** the work activity.

[B] **NOTIFY** the WCRRF Operations Center of the hinge pin status.

Operations Center Operator or designee

[C] **REQUEST** that the SOM evaluate the need to enter LCO 3.5.

Waste Handling Technician

[18] **POSITION** the prepared parent drum on the drum lift with the prepared parent drum closure ring bolt accessible for lid removal when the drum closure ring is inside of the WCG.

[19] **CLOSE** and **SECURE** the bellyband on the prepared parent drum, ensuring that the bag-off sleeve does <u>not</u> get caught on the bellyband.

[20] **ENSURE** that the retaining clips are properly seated in the groove at the bottom of the hinge pins.

6.2 Parent Drum Loading (continued)

[21] **IF** a retaining clip is missing from a hinge pin,
THEN:

[A] **STOP** the work activity.

[B] **NOTIFY** the WCRRF Operations Center of the hinge pin status.

Operations Center Operator or designee

[C] **REQUEST** that the SOM evaluate the need to enter LCO 3.5.

WARNING

Failure to ensure the Trolley Clamp is positioned next to the WCG prior to lowering or raising the drum lift could lead to equipment damage and personnel injury.

[22] **IF** the Trolley Rail clamp is to be used,
AND is not on the drum rail,
THEN PLACE the trolley rail clamp on the rail and **POSITION** next to the WCG.

[23] **RAISE** the prepared parent drum to the WCG parent drum port using the drum lift pendent, leaving an adequate gap (approximately 12 in.) to attach the bag-off sleeve to the WCG parent drum port.

[24] **BAG ON** the prepared parent drum to the WCG parent drum port in accordance with section 7.1, Parent Drum Bag On, and **RETURN** to the following step.

WARNING

Downward movement of the parent drum could result in the drum bag-off bag separating from the WCG drum port and resulting in the spread of radiological contamination.

[25] **TURN** the drum lift key to OFF, and **REMOVE** the drum lift key, as applicable.

[26] **PLACE** the drum lift key in the key box, as applicable.

6.2 Parent Drum Loading (continued)

[27] **IF** the parent drum is to remain attached to the WCG overnight,
THEN OBTAIN the Environmental and Waste Management Facility Operations-Facility Operations Director (EWMO-FOD) approval to leave the parent drum attached to the WCG overnight, and **DOCUMENT** the approval on Attachment 1.

[28] **IF** the EWMO-FOD does **NOT** approve leaving a parent drum attached to the WCG overnight,
THEN ENSURE that the parent drum is removed before the end of the work day.

[29] **PROCESS** the waste in the parent drum in accordance with Section 10, WCG Waste Processing.

6.3 Parent Drum Unloading

This sub-section is a stand-alone sub-section and may be performed independently of or in conjunction with other sub-sections.

Waste Handling Technician

[1] **ENSURE** that all applicable prerequisite actions have been completed.

[2] **ENSURE** that the parent drum has been bagged off of the WCG in accordance with Section 7.2, Parent Drum Bag Off.

RCT

[3] **PERFORM** radiological surveys as necessary during the waste container handling evolutions.

Waste Handling Technician

[4] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

[5] **ENSURE** that the drum lift key has been obtained from the key box.

[6] **ENSURE** that the drum lift key has been inserted, and **TURN** the drum lift key to ON in order to establish power to the drum lift.

6.3 Parent Drum Unloading (continued)

WARNING

The drum lift pendant operator is to announce operation of the lift before raising or lowering the drum and all personnel are to stand clear and to the side of drum movement in order to prevent personnel injuries.

[7] **POSITION** a drum dolly to receive the parent drum.

WARNING

Personnel SHALL <u>not</u> place any portion of the body (e.g., hands or arms) under an elevated load in order to prevent serious personal injury.

[8] **LOWER** the parent drum down onto the drum dolly using the drum lift pendent.

[9] **OPEN** the drum bellyband, and **UNLOAD** the parent drum from the drum lift.

[10] **IF** no additional drums are to be loaded with the WCG drum lift,
THEN:

[A] **SECURE** the drum bellyband.

[B] **RAISE** the drum lift to the desired height for stowing using the drum lift pendent.

[C] **TURN** the drum lift key to OFF, and **REMOVE** the drum lift key.

[D] **PLACE** the drum lift key in the key box.

[11] **TAPE** the bagged off parent drum horsetail using vinyl tape.

[12] **PLACE** a layer of containment (e.g., the cutoff end of the parent drum bagged off bag or piece of plastic) over the drum lid.

[13] **TAPE** the entire parent drum lid using vinyl tape.

6.3 Parent Drum Unloading (continued)

NOTE 1 *The RCRA Hazardous Waste Codes of a parent container do not apply to the empty parent container or the empty parent container label when the empty parent container satisfies the RCRA definition of an empty container in 40 CFR 261.7, Residues of Hazardous Waste in Empty Containers. http://edocket.access.gpo.gov/cfr_2009/julqtr/pdf/40cfr261.7.pdf.*

NOTE 2 *The following steps may be performed at a time that is operationally convenient.*

[14] **OVERPACK** the empty parent drum in accordance with EP-WCRR-WO-DOP-0236, WCRRF Loading/Unloading SWB or 85-gal Drum.

[15] **MOVE** the empty parent drum to a transportainer in accordance with EP-WCRR-WO-DOP-0202, WCRRF and Building TA-50-69 Waste Container Receipt, Movement, and Transfer.

[16] **ENSURE** that the Inventory Control Personnel have been notified that the empty parent drum has been removed from Building TA-50-69.

7. PERFORMANCE—WCG PARENT DRUM BAG-ON/BAG-OFF OPERATIONS

NOTE *Radiological surveys may be performed as determined necessary [e.g., by an RP representative (e.g., RCT)] anytime during the performance of this procedure.*

7.1 Parent Drum Bag On

This sub-section is a stand-alone sub-section and may be performed independently of or in conjunction with other sub-sections.

Waste Handling Technician

[1] **ENSURE** that all applicable prerequisite actions have been completed.

[2] **WEAR** respiratory protection as required by the applicable RWP.

RCT

[3] **PERFORM** radiological surveys as necessary during the waste container handling evolutions.

Waste Handling Technician

[4] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

[5] **ENSURE** the parent drum has been loaded onto the WCG in accordance with Section 6.2, Parent Drum Loading.

[6] **ENSURE** that the WCG has been wiped down to reduce radiological contamination.

[7] **SET UP** a portable HEPA-filter exhaust system (MAC-21) in order to increase local airflow at the site of the horsetail during the cutting operation.

[8] **REMOVE** the retaining band from the WCG parent drum port bag-off stub.

[9] **VISUALLY INSPECT** the WCG parent drum port bag-off stub for damage (e.g., tears).

[10] **IF** the WCG parent drum port bag-off stub is damaged (e.g., tears),
THEN:

[A] **REPAIR** the damage (e.g., tears) using vinyl tape.

[B] **REQUEST** an RCT survey for radiological contamination.

7.1 Parent Drum Bag On (continued)

[C] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

[11] **SLIDE** the bag-off stub down to the outer ring of the WCG parent drum port.

[12] **SWIPE** around the WCG parent drum port with a maslin smear, and **REQUEST** an RCT monitor the swipe for radiological contamination.

[13] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

NOTE *The new bag-on bag is attached to the parent drum.*

[14] **SLIDE** the new bag-on bag over the old bag-on bag stub to the inner ring of the WCG parent drum port.

[15] **APPLY** vinyl tape to the new bag-on bag where the retaining band buckle is to be placed.

[16] **SECURE** the new bag-on bag with the retaining band.

[17] **REMOVE** the bag-off stub from the WCG parent drum port, and **DROP** the bag-off stub into the glovebox.

WARNING

The drum lift pendant operator is to announce operation of the lift before raising or lowering the drum and all personnel are to stand clear and to the side of drum movement in order to prevent personnel injuries.

[18] **ALTERNATELY RAISE** the parent drum and **GUIDE** the bag-on bag to prevent damage to the bag-on bag until the parent drum has been raised to the upper limit switch or until the drum is adequately inserted.

7.1 Parent Drum Bag On (continued)

NOTE *The Trolley Rail Clamp is used at the discretion of the PIC, and/or when processing heavy drums to act as a rail stop to restrict forward drum movement when removing heavy items from drum into glovebox.*

[19] **IF** the Trolley Rail Clamp is to be used,
THEN:

[A] **SLIDE** the Trolley Rail Clamp against the drum trolley rail assembly next to the lifting fixture.

[B] **TIGHTEN** the Trolley Rail clamp handle clockwise to secure the clamp against the drum trolley.

7.2 <u>Parent Drum Bag Off</u>

This sub-section is a stand-alone sub-section and may be performed independently of or in conjunction with other sub-sections.

Waste Handling Technician

[1] **ENSURE** that all applicable prerequisite actions have been completed.

[2] **WEAR** respiratory protection as required by the applicable RWP.

RCT

[3] **PERFORM** radiological surveys as necessary during the waste container handling evolutions.

Waste Handling Technician

[4] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

[5] **IF** Trolley Rail Clamp was used,
THEN LOOSEN handle counterclockwise and **SLIDE** the Trolley Rail Clamp away from the drum trolley (towards the WCG).

[6] **PLACE** the drum lid and drum closure ring bolt are on the parent waste drum.

7.2 Parent Drum Bag Off (continued)

[7] **IF** the parent drum closure ring **CANNOT** be properly attached to the parent drum, **AND** the parent drum is empty,
THEN:

[A] **AFFIX** the closure ring, if possible, to the parent drum and **TAPE** the parent drum lid onto the drum using vinyl tape or equivalent.

[B] **GO** to Step 7.2[11].

NOTE *The removal of a parent drum from the WCG which contains waste material must be performed as a critical lift.*

[8] **IF** the parent drum closure ring **CANNOT** be properly attached to the parent drum, **AND** the parent drum contains waste material,
THEN:

[A] **STOP** the activity and place waste material in a safe configuration (e.g., cover with a fire blanket).

[B] **NOTIFY** supervision and the WCRRF Operations Center of the discrepancy and **REQUEST** the applicable actions.

[9] **ENSURE** that the drum closure ring bolt jam nut is tightened against the non-threaded lug of the drum closure ring.

[10] **ENSURE** that duct tape has been placed on the drum closure ring bolt in order to prevent damage to the bag-off sleeve.

[11] **ENSURE** that the WCG has been wiped down to reduce radiological contamination.

[12] **SET UP** a portable HEPA-filter exhaust system (MAC-21) to increase local airflow at the site of the horsetail during the cutting operation.

[13] **OBTAIN** the drum lift key from the key box, as applicable.

[14] **INSERT** the drum lift key, and **TURN** the drum lift key to ON in order to establish power to the drum lift, as applicable.

7.2 Parent Drum Bag Off (continued)

WARNING

The drum lift pendant operator is to announce operation of the lift before raising or lowering the drum and all personnel are to stand clear and to the side of drum movement in order to prevent personnel injuries.

[15] **LOWER** the parent drum sufficiently to create a horsetail using the drum lift pendent.

[16] **INSPECT** the bag-off bag for damage (e.g., tears).

[17] **IF** bag-off bag is damaged (e.g., tears),
THEN:

[A] **REPAIR** the damage (e.g., tears) using vinyl tape.

[B] **REQUEST** an RCT survey for radiological contamination.

[C] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

[18] **MIST** inside of the bag-off bag with spray cleaner and **RUB** the bag-off bag together to ensure the complete coverage of the spray cleaner in order to control contamination.

[19] **SQUEEZE** as much air as possible out of the bag-off bag.

[20] **GATHER** the bag-off bag and **COMPRESS** the bag-off bag in order to create a horsetail approximately 8 to 10 in. long.

[21] **TIGHTLY SECURE** the horsetail with vinyl tape or filament tape.

[22] **FIRMLY ATTACH** two binding ties near the center of the horsetail, approximately 6 in. apart.

[23] **IF** bagging off the last parent drum for the work day,
THEN FIRMLY ATTACH a second binding tie approximately 2 in. from the center of the horsetail on the WCG side of the horsetail.

7.2 Parent Drum Bag Off (continued)

NOTE *The excess part of the binding tie protruding through the binding tie latch is not to be cut off.*

[24] **COVER** the attached binding ties with vinyl tape.

Waste Handling Technician Three

[25] **POSITION** the horsetail cutters between the binding ties of the horsetail.

Waste Handling Technician One

[26] **GRASP** the top of horsetail.

Waste Handling Technician Two

[27] **GRASP** the bottom of horsetail.

WARNING

Extremities SHALL not be placed inside the jaws of the cutting tool in order to prevent personnel injury due to pinching.

Waste Handling Technician Three

[28] **CUT** the horsetail between the binding ties.

Waste Handling Technician One and Two

[29] **SIMULTANEOUSLY COVER** the cut stubs of the bag-off bag with vinyl tape.

[30] **ENSURE** that the cut-stubs have been covered with a final layer of vinyl tape, as directed by an RCT.

NOTE 1 *Used cheesecloth are to be disposed of as compactable waste.*

NOTE 2 *The following step may be performed out of sequence.*

Waste Handling Technician Three

[31] **WIPE** down the cutters used to cut the horsetail, place the cutters in a holder, and place the cutters in the designated staging area.

7.2 Parent Drum Bag Off (continued)

NOTE *Used cheesecloth are to be disposed of in the compactable waste container.*

Waste Handling Technician

[32] **DECONTAMINATE**, as necessary, in accordance with RCT instructions.

[33] **REMOVE** the empty parent drum from the WCG drum lifting device in accordance with Section 6.3, Parent Drum Unloading.

8. PERFORMANCE—WCG DAUGHTER DRUM, BAGPORT, OR GLOVEPORT BAG-ON/BAG-OFF OPERATIONS

NOTE *Radiological surveys may be performed as determined necessary [e.g., by an RP representative (e.g., RCT)] anytime during the performance of this procedure.*

8.1 Bag On Daughter Drum, Bagport, or Gloveport

This sub-section is a stand-alone sub-section and may be performed independently of or in conjunction with other sub-sections.

NOTE *This section provides instructions for bagging onto the WCG at a daughter drum port, bagport, or gloveport.*

Waste Handling Technician

[1] **ENSURE** that all applicable prerequisite actions have been completed.

[2] **IF** a daughter drum is to be bagged onto the WCG,
THEN ENSURE that the daughter drum has been prepared in accordance with EP-WCRR-WO-DOP-0221.

[3] **WEAR** respiratory protection as required by the applicable RWP.

RCT

[4] **PERFORM** radiological surveys as necessary during the waste container handling evolutions.

Waste Handling Technician

[5] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

[6] **ENSURE** that the WCG has been wiped down to reduce radiological contamination.

[7] **IF** directed by an RCT to establish a portable HEPA-filter exhaust system,
THEN SET UP a portable HEPA-filter exhaust system (MAC-21)in order to increase the local airflow at the site of the horsetail during the cutting operation.

[8] **REMOVE** the retaining band from the bag-off stub.

[9] **VISUALLY INSPECT** under the retaining band of the previous drum/bagport/gloveport bag-off stub for damage (e.g., tears).

8.1 Bag On Daughter Drum, Bagport, or Gloveport (continued)

[10] **IF** the previous drum/bagport/gloveport bag-off stub is damaged (e.g., tears),
THEN SEAL the damaged area with vinyl tape.

[11] **SLIDE** the bag-off stub down to the outer ring of the port (drum, bagport, or gloveport).

[12] **SWIPE** around the port with a maslin smear, and **REQUEST** an RCT monitor the swipe for radiological contamination.

[13] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

[14] **SLIDE** a new bag-on bag over the bag-off stub.

[15] **ADHERE** vinyl tape to the new bag-on bag where the retaining band buckle is to be placed.

[16] **SECURE** the new bag with the retaining band.

[17] **REMOVE** the bag-off bag stub and drop the bag-off bag stub into the daughter drum/bagport bag/gloveport bag, as applicable.

[18] **IF** bagging on a daughter drum,
THEN:

[A] **MOVE** the drum from the drum dolly to the vertical lift table.

[B] **MANUALLY RAISE** the drum to the appropriate height.

8.2 Bag Off Daughter Drum

This sub-section is a stand-alone sub-section and may be performed independently of or in conjunction with other sub-sections.

NOTE *This section provides instructions for bagging off a daughter drum from the WCG.*

Waste Handling Technician

[1] **ENSURE** that all applicable prerequisite actions have been completed.

[2] **WEAR** respiratory protection as required by the applicable RWP.

RCT

[3] **PERFORM** radiological surveys as necessary during the waste container handling evolutions.

Waste Operator

[4] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

[5] **ENSURE** that the WCG has been wiped down to reduce radiological contamination.

[6] **SET UP** a portable HEPA-filter exhaust system (MAC-21) in order to increase the local airflow at the site of the horsetail during the cutting operation.

[7] **MANUALLY LOWER** the vertical lift table.

[8] **INSPECT** the bag-off bag for damage (e.g., tears).

[9] **IF** the bag-off bag is damaged (e.g., tears),
THEN:

[A] **REPAIR** the damage (e.g., tears) using vinyl tape.

[B] **REQUEST** an RCT survey for radiological contamination.

[C] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

8.2 Bag Off Daughter Drum (continued)

WARNING

Proper lifting techniques and buddy system SHALL be used when moving a daughter drum from the lift table to the drum dolly in order to prevent personnel injury and to prevent separating the daughter drum bag-off bag from the WCG daughter drum port.

NOTE *A VersaLift may be used to assist the lifting of a drum off of the vertical lift table.*

[10] **MOVE** the drum from the vertical lift table to a drum dolly.

[11] **MIST** inside of the bag-off bag with spray cleaner and **RUB** the bag-off bag together to ensure the complete coverage of the spray cleaner in order to control contamination.

[12] **SQUEEZE** as much air as possible out of the bag-off bag.

[13] **GATHER** the bag-off bag.

[14] **ROTATE** the drum <u>or</u> **COMPRESS** the bag-off bag (as applicable) in order to create a horsetail approximately 8 to 10 in. long.

[15] **TIGHTLY SECURE** the horsetail with vinyl tape or filament tape.

[16] **FIRMLY ATTACH** two binding ties near the center of the horsetail, approximately 6 in. apart.

NOTE *The excess part of the binding tie protruding through the binding tie latch is <u>not</u> to be cut off.*

[17] **COVER** the attached binding ties with vinyl tape.

Waste Handling Technician Three

[18] **POSITION** the horsetail cutters between the binding ties of the horsetail.

Waste Handling Technician One

[19] **GRASP** top of horsetail.

8.2 Bag Off Daughter Drum (continued)

Waste Handling Technician Two

[20] **GRASP** the bottom of the horsetail.

WARNING

Extremities SHALL <u>not</u> be placed inside the jaws of the cutting tool in order to prevent personnel injury due to pinching.

Waste Handling Technician Three

[21] **CUT** the horsetail between the binding ties.

Waste Handling Technician One and Two

[22] **SIMULTANEOUSLY COVER** the cut stubs of the bag-off bag with vinyl tape.

[23] **ENSURE** that the cut-stubs have been covered with a final layer of vinyl tape, as directed by an RCT.

NOTE 1 *Used cheesecloth **SHALL** be disposed of as compactable waste.*

NOTE 2 *The following step may be performed out of sequence.*

Waste Handling Technician Three

[24] **WIPE** down the cutters used to cut the horsetail, place the cutters in a holder, and place the cutters in the designated staging area.

Waste Handling Technician

[25] **IF** the bag-off bag has a filter that is covered with tape,
THEN:

[A] **REMOVE** the tape from bag filter.

[B] **REQUEST** an RCT survey for radiological contamination.

[C] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

8.2 Bag Off Daughter Drum (continued)

[26] **IF** a POC was bagged off of the WCG,
THEN GO to Step 10.2[13].

NOTE 1 *Waste containers with liquids (any amount or configuration) that have not been solidified (absorbed) must be managed on secondary containment pallets and have a FREE LIQUID label affixed.*

NOTE *All parent drum RCRA Hazardous Waste Codes are not assigned to a daughter drum when the reason (item) for assigning a RCRA Hazardous Waste Code to the parent drum has not been placed into the daughter drum. The WMC can assist with assigning the appropriate RCRA Hazardous Waste Codes to a drum.*

[27] **CLOSE** the daughter drum in accordance with EP-WCRR-WO-DOP-0221.

[28] **ENSURE** that the Inventory Control Personnel have been notified that daughter drums and an empty parent drum have been generated in Building TA-50-69.

9. PERFORMANCE—ITEM BAG-IN/BAG-OUT OPERATIONS

NOTE *Radiological surveys may be performed as determined necessary [e.g., by an RP representative (e.g., RCT)] anytime during the performance of this procedure.*

9.1 WCG Item Bag-Out

This sub-section is a stand-alone sub-section and may be performed independently of or in conjunction with other sub-sections.

Waste Handling Technician

[1] **ENSURE** that all applicable prerequisite actions have been completed.

[2] **WEAR** respiratory protection as required by the applicable RWP.

RCT

[3] **PERFORM** radiological surveys as necessary during the waste container handling evolutions.

Waste Handling Technician

[4] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

[5] **ENSURE** that a portable CAM is placed in the vicinity of the filtered bagout bag during WCG operations as directed by RP-1.

[6] **IF** a bag is required on the WCG port,
THEN:

[A] **ENSURE** that the WCG has been wiped down to reduce radiological contamination.

[B] **SET UP** a portable HEPA-filter exhaust system (MAC-21) and elephant trunk as close as possible to the filtered bagout bag in order to increase the local airflow at the site of the horsetail during the cutting operation.

NOTE *Glovebox negative pressure **SHALL** be used to the extent possible in order to remove excess air from the filtered bag-out bag during bagout operations.*

[C] **REMOVE** the retaining band from the drum/bagport/gloveport bag-out stub.

9.1 WCG Item Bag-Out (continued)

[D] **VISUALLY INSPECT** under the retaining band of the previous drum/bagport/gloveport bag-out stub for damage (e.g., tears).

[E] **IF** the previous drum/bagport/gloveport bag-out stub is damaged (e.g., tears), **THEN SEAL** the damaged area with vinyl tape.

[F] **SLIDE** the bag-out stub down to the outer ring of the port (drum, bagport, or gloveport).

[G] **SWIPE** around the port with a maslin smear, and **REQUEST** an RCT monitor the swipe for radiological contamination.

[H] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

[I] **SLIDE** new bag-on bag over the bag-out stub.

[J] **ADHERE** vinyl tape to the new bag-on bag where the retaining band buckle is to be placed.

[K] **SECURE** the new bag-on bag with the retaining band.

[L] **REMOVE** the bag-out bag stub and drop the bag-out bag stub into the daughter drum/bagport bag/gloveport bag, as applicable.

[7] **ENSURE** that the WCG has been wiped down to reduce radiological contamination.

[8] **ENSURE** a portable HEPA-filter exhaust system (MAC-21) and elephant trunk are set up as close as possible to the filtered bagout bag in order to increase the local airflow at the site of the horsetail during the cutting operation.

[9] **SLIDE** the item to be bagged out to the end of the bag-out bag.

[10] **INSPECT** the bag-out bag for damage (e.g., tears).

[11] **IF** the bag-out bag is damaged (e.g., tears),
THEN:

[A] **REPAIR** the damage (e.g., tears) using vinyl tape.

9.1 WCG Item Bag-Out (continued)

[B] **REQUEST** an RCT survey for radiological contamination.

[C] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

[12] **MIST** inside of the bag-out bag with spray cleaner and **RUB** the bag-out bag together to ensure the complete coverage of the spray cleaner in order to control contamination.

[13] **SQUEEZE** as much air as possible out of the bag-out bag.

[14] **GATHER** the bag-out bag.

[15] **ROTATE** the drum <u>or</u> **COMPRESS** the bag-out bag (as applicable) in order to create a horsetail approximately 8 to 10 in. long.

[16] **TIGHTLY SECURE** the horsetail with vinyl tape or filament tape.

[17] **ENSURE** that the horsetail is located far enough away from the filtered bagout bag to avoid creasing, folding, or otherwise challenging the integrity of the filter.

[18] **FIRMLY ATTACH** two binding ties near the center of the horsetail, approximately 6 in. apart.

[19] **IF** bagging out the last item for the work day,
THEN FIRMLY ATTACH a second binding tie approximately 2 in. from the center of the horsetail on the WCG side of the horsetail.

NOTE *The excess part of the binding tie protruding through the binding tie latch tie is <u>not</u> to be cut off.*

[20] **COVER** the attached binding ties with vinyl tape.

Waste Handling Technician Three

[21] **POSITION** the horsetail cutters between the binding ties of the horsetail.

Waste Handling Technician One

[22] **GRASP** top of horsetail.

9.1 WCG Item Bag-Out (continued)

Waste Handling Technician Two

[23] **GRASP** bottom of horsetail.

WARNING

Extremities SHALL <u>not</u> be placed inside the jaws of the cutting tool in order to prevent personnel injury due to pinching.

Waste Handling Technician Three

[24] **CUT** the horsetail between the binding ties.

Waste Handling Technician One and Two

[25] **SIMULTANEOUSLY COVER** the cut stubs of the bag-out bag with vinyl tape.

[26] **ENSURE** that the cut-stubs have been covered with a final layer of vinyl tape, as directed by an RCT.

NOTE 1 *Used cheesecloth **SHALL** be disposed of as compactable waste.*

NOTE 2 *The following step may be performed out of sequence.*

Waste Handling Technician Three

[27] **WIPE** down the cutters used to cut the horsetail, and **PLACE** the cutters in a holder, and **PLACE** the cutters in the designated staging area.

Waste Handling Technician

[28] **IF** the bag-out bag has a filter that is covered with tape,
THEN:

[A] **REMOVE** the tape from bag filter.

[B] **REQUEST** an RCT survey for radiological contamination.

[C] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

9.2 WCG Introductory Port

This sub-section is a stand-alone sub-section and may be performed independently of or in conjunction with other sub-sections.

NOTE *This sub-section provides instructions for introducing items into the WCG.*

WARNING

Items are not to be removed from the WCG using the airlock since items placed in the airlock from the interior of the WCG are possibly radiologically contaminated.

Waste Handling Technician

[1] **ENSURE** that all applicable prerequisite actions have been completed.

[2] **PREPARE** the area in accordance with RCT instructions.

[3] **WEAR** respiratory protection as required by the applicable RWP.

RCT

[4] **PERFORM** radiological surveys as necessary during the waste container handling evolutions.

Waste Handling Technician

[5] **IF** radiological contamination is detected,
THEN FOLLOW the instructions of the RCT and RWP.

WARNING

Both WCG airlock doors are to remain closed until they must be opened to introduce an item into the WCG in order to prevent releasing radiological contamination out of the WCG.

[6] **ENSURE** that both WCG Introductory Port doors are securely closed.

9.2 WCG Introductory Port (continued)

[7] **OPEN** the outer WCG Introductory Port door.

WARNING

Items are to be placed inside of the WCG airlock in a manner that does <u>not</u> disturb the WCG airlock surfaces in order to mitigate the spread of radiological contamination.

[8] **GENTLY PLACE** the item to be introduced into the WCG airlock.

[9] **CLOSE** the outer WCG Introductory Port door.

[10] **OPEN** the inner WCG Introductory Port door.

[11] **REMOVE** the item from the WCG Introductory Port and **PLACE** the item in the WCG.

[12] **CLOSE** the inner WCG Introductory Port door.

[13] **VERIFY** that both WCG Introductory Port doors are securely closed.

10. PERFORMANCE—WCG WASTE PROCESSING

This section is a stand-alone section and may be performed independently of or in conjunction with other Performance sections.

NOTE *Radiological surveys may be performed as determined necessary [e.g., by an RP representative (e.g., RCT)] anytime during the performance of this procedure.*

10.1 WCG Waste Processing Preparation

Waste Handling Technician

[1] **ENSURE** that all applicable prerequisite actions have been completed.

[2] **($) ENSURE** that the battery charger for the cordless drill in the WCG has been unplugged. (SAC 5.10.1.6.1.)

[3] **ENSURE** that the parent drum has been bagged onto the WCG in accordance with Section 7.1, Parent Drum Bag On.

NOTE *The following step may be performed out of sequence.*

[4] **ENSURE** that the daughter drums have been bagged onto the WCG in accordance with Section 8.1, Bag On Daughter Drum, Bagport, or Gloveport, and **RECORD** the following information on Attachment 1:

- Daughter Drum Number
- Daughter Drum Filter Number
- Daughter Drum Bag Filter Number
- Daughter Drum Purchase Order Number

[5] **IF** VE activities are to occur,
THEN ENSURE that CCP-TP-113, Standard Contact Handled Waste Visual Examination, is performed concurrently with this procedure.

[6] **SLOWLY REMOVE** the parent drum lid, being prepared to close the lid if there are unexpected conditions.

[7] **EXAMINE** the contents of the parent drum, and **DETERMINE** whether the contents of the drum have any unexpected items.

10.1 WCG Waste Processing Preparation (continued)

[8] **IF** any unexpected items are present in the parent drum,
THEN:

[A] **CLOSE** the parent drum.

[B] **NOTIFY** supervision and the WCRRF Operations Center of the discrepancy, and **REQUEST** the applicable actions.

[C] **DOCUMENT** the discrepancy and applicable actions in the Comments section of Attachment 1.

NOTE *Placing the parent drum lid over the waste items being surveyed is a simulation of the waste items being inside of a drum and provides a representation of the expected dose rate outside of the drum in order to determine whether the dose rate may exceed 190 mrem/hr and is the desired survey method.*

[9] **ENSURE** that a drum lid is placed over the waste items to be surveyed, as necessary, and **REQUEST** an RCT perform radiological surveys of the items being removed from the parent drum.

NOTE 1 *Unvented, Sealed waste packages are those waste packages that have a positive locking mechanism, such as a gasket with drum closure ring or a screw top lid (with no other openings) to seal the lid to the waste package.*

[10] **IF** the parent drum contains an unvented, sealed waste package,
THEN:

[A] **RECORD** the parent drum container identification number on Attachment 4, WCRRF WCG Breaching (Opening) Unvented, Sealed Waste Packages.

10.1 WCG Waste Processing Preparation (continued)

NOTE *Multiple copies of Attachment 4 may be required for parent drums containing more than four unvented, sealed waste packages that are 5- to 30 gal. Only a single copy of Attachment 4 is necessary for parent drums with multiple unvented, sealed waste packages that are less than 5 gal.*

[B] **CHECK** (√) the applicable box on Attachment 4 to indicate the type of unvented, sealed waste package (e.g., Metal 5- to 30-gal, Non-metallic 5- to 30-gal, or < 5-gal).

NOTE *The cordless drill is considered to be a spark-producing tool and is to be placed aside in the WCG, and <u>not</u> handled, when non-sparking tools are required.*

[C] **($) ENSURE** that non-sparking tools are available for use in the WCG, and **ENSURE** that the availability of the non-sparking tools has been documented on Attachment 4. (SAC 5.10.1.6.1).

NOTE *Administrative Control Lock Log Sheet form 10.4 of EP-DIV-AP-0117* ***SHALL*** *be completed anytime the lock is placed or removed for WCG receptacles lockout.*

[D] **($) ENSURE** that the WCG electrical receptacles have been de-energized and locked open/off with an administrative lock, and **CHECK (√)** SAT or UNSAT on Attachment 4, and **MAKE** an entry on the Administrative Control Log Sheet to document that the WCG electrical receptacles are locked open/off. (SAC 5.10.1.6.2)

10.1 WCG Waste Processing Preparation (continued)

NOTE 1 *A proper ground requires that all ends of the grounding strap be firmly attached to a clean-bare metal surface.*

NOTE 2 *Attachment 5,WCRRF WCG Breaching (Opening) Metal 5- to 30-gal Unvented-Sealed Waste Packages Surveillance, is completed to document the operator and independent verifier installing the grounding devices within TA-50-69.*

NOTE 3 *The following step is to be performed by an operator and then independently verified by a second operator.*

NOTE 4 *Separate copies of Attachment 5 are required for each waste package.*

Waste Handling Technician

[E] **IF** the waste package is a METAL 5- to 30-gal waste package,
THEN:

[a] **RECORD** the parent drum container identification number on Attachment 5.

[b] **($) ENSURE** that the parent drum has been properly grounded to the WCG using a grounding strap in the WCG, and **CHECK** (√) SAT or UNSAT on Attachment 5 to document that the grounding strap was attached. (SR 4.6.1)

Independent Verifier

[c] **VERIFY** that the parent drum has been properly grounded to the WCG using a grounding strap in the WCG, and **CHECK** (√) SAT or UNSAT on Attachment 5.

10.1 WCG Waste Processing Preparation (continued)

Waste Handling Technician

[11] **IF** processing a parent drum containing an unvented, sealed 5- to 30-gal waste package, **THEN:**

WARNING

Unvented, sealed waste packages may contain a concentration of hydrogen gas and are to be handled or identified in this document using grounding devices and lid restraints in order to minimize any possible adverse effects from potentially releasing hydrogen.

NOTE *Drum lid restraints that are not in use are to be stored in such a matter that the drum lid restraints are protected from degradation (e.g., in a daughter drum).*

[A] **($) VISUALLY** inspect the waste package lid restraint for the following, and **DOCUMENT** the results of the inspection on Attachment 4:

- Degradation (e.g., no indication of cracked parts, missing fasteners, loose or frayed parts, excessive wear, or unusual deformation) (SAC 5.10.1.5.1)
- Missing or illegible identification
- Melting or charring
- Broken or worn stitching in load bearing splices
- Knots in any part of the drum lid restraint
- Discoloration and brittle or stiff areas

[B] **($) ATTACH** the waste package lid restraint to the waste package and verify proper installation, and **DOCUMENT** that the lid restraint has been attached on Attachment 4. (SAC 5.10.1.5.1)

NOTE 1 *A proper ground requires that all ends of the grounding strap be firmly attached to a clean-bare metal surface.*

NOTE 2 *Separate copies of Attachment 4 are required for each waste package.*

[C] **($) IF** the waste package is a METAL 5- to 30-gal waste package, **THEN GROUND** the metal waste package using a grounding strap in the WCG, and **CHECK** (√) SAT or UNSAT on Attachment 5 to document that the grounding strap was attached.. (LCO 3.6 and SR 4.6.1)

Independent Verifier

[D] **VERIFY** that the grounding strap is attached and **CHECK** (√) SAT or UNSAT on Attachment 5.

10.1 WCG Waste Processing Preparation (continued)

[E] **RECORD** the following information, Name, Signature, Z Number and Date on Attachment 5.

Waste Handling Technician

[F] **($) IF** the grounding strap was attached to a waste package or parent drum, **AND** the grounding strap becomes detached from either the waste package or the parent drum during the opening of the waste package,
THEN ENTER the Actions of LCO 3.6, and **NOTIFY** the WCRRF Operations Center. (LCO 3.6)

[G] **OPEN** the waste package, and **REMOVE** the lid restraint and waste package lid.

[H] **ENSURE** that the lid restraint and waste package lid are placed out of the way of the open end of the waste package.

[I] **($) RECORD** the time that the lid restraint and waste package lid were removed from the waste package on Attachment 4. (SAC 5.10.1.5.2 and SAC 5.10.1.6.3)

[J] **ENSURE** that all WCG operations have been suspended.

[K] **($) WHEN** 30 min. has elapsed,
THEN DOCUMENT the time and that greater than or equal to 30 min. has elapsed since the lid restraint and waste package lid were removed on Attachment 4. (SAC 5.10.1.5.2 and SAC 5.10.1.6.3)

[L] **RESUME** operations as directed by supervision.

[M] **REMOVE** the grounding straps from the <u>metal</u> waste package, as applicable.

[N] **IF** the waste packaged opened contains a 5- to 30-gal unvented, sealed waste package,
THEN GO to Step 10.1.[11][A].

[O] **IF** the waste package opened contains an unvented, sealed waste package of less than 5 gal,
THEN GO to Step 10.1[12].

[P] **REMOVE** the grounding straps from the parent drum.

10.1 WCG Waste Processing Preparation (continued)

[Q] **IF** directed by supervision,
THEN REMOVE the administrative lock from the WCG electrical receptacles, and **ENERGIZE** the WCG electrical receptacles.

[12] **IF** processing a parent drum containing an unvented, sealed waste packages of less than 5 gal,
THEN:

[A] **OPEN** the waste packages, and **REMOVE** the waste package lids.

NOTE *For situations where multiple waste packages are being opened (e.g., sample vials) the 30-min. wait period before the electrical receptacles may be re-energized starts after the last waste package is opened.*

[B] **($) RECORD** the time that the last unvented, sealed waste package lid was removed from the waste package on Attachment 4. (SAC 5.10.1.6.3)

WARNING

The WCG electrical receptacles is not to be re-energized until 30 min. has elapsed since the unvented waste package was opened in order to prevent the possibility of a flammable gas mixture deflagration.

NOTE *Glovebox operations may continue after opening a less than 5 gal-unvented sealed waste package while waiting the required 30 min. before re-energizing the WCG electrical receptacles.*

[C] **WHEN** 30 min. has elapsed,
THEN:

[a] **($) DOCUMENT** the time and that that greater than or equal to 30 min. has elapsed since the waste package lid was removed on Attachment 4. (SAC 5.10.1.6.3)

10.1 WCG Waste Processing Preparation (continued)

[b] **REMOVE** the grounding straps from the parent drum.

[c] **REMOVE** the administrative lock from the WCG electrical receptacles, and energize the WCG electrical receptacles as directed by supervision.

[13] **IF** sparking is observed at anytime during the processing of waste material, **THEN:**

[A] **PLACE** a fire barrier (e.g., MET-L-X or fire blanket) over the suspect waste material.

[B] **STOP** waste processing.

[C] **ENSURE** that a Fire Watch has been stationed at the WCG to continuously monitor the waste in the WCG, and **CHECK** (√) YES or NO on Attachment 1.

NOTE *The following personnel are notified by the WCRRF Operations Center:*

- *OM or designee*
- *Solid Waste Regulatory Compliance Group*
- *Industrial Hygienist*
- *Cognizant System Engineer*
- *Radiation Protection*

[D] **NOTIFY** the WCRRF Operations Center/Shift Operations Manager of the discrepancy, and **DOCUMENT** the notification and discrepancy in the Comments section of Attachment 1:

[E] **IF** the suspect item is to be bagged out of the WCG, **THEN BAG OUT** the suspect item in accordance with Section 9.1, WCG Item Bag-Out.

[F] **PLACE** the suspect item in an empty daughter drum.

[G] **IF** the daughter drum is attached to the WCG, **THEN BAG OFF** the daughter drum in accordance with Section 8.2, Bag Off Daughter Drum.

[H] **CLOSE** the daughter drum in accordance with EP-WCRR-WO-DOP-0221.

10.1 WCG Waste Processing Preparation (continued)

[14] **IF** a shielded container (e.g., lead lined) is in the parent drum,
THEN:

WARNING

Personnel are to avoid the high radiation exposure area in front of a shielded container that has been accessed in order to prevent increased exposure to radiation due to radiation streaming from the open portion of the shielded container.

[A] **ENSURE** that personnel in Building TA-50-69 are notified that a shielded container is to be accessed and that they are positioned such that when the shielded container is accessed the radiation streaming from the shielded container is directed away from personnel.

[B] **ACCESS** the shielded container contents without removing the contents, and **REQUEST** an RCT to perform a radiological survey to determine the radiation levels.

[C] **IF** the radiation level exceeds an RWP limit,
THEN:

[a] **ENSURE** that the shielding has been replaced, and **CLOSE** the shielded container.

[b] **REQUEST** an RCT perform a radiological survey on the closed shielded container to determine the radiation levels.

[c] **IF** the closed, shielded container radiation level exceeds the RWP limits,
THEN:

1. **ENSURE** that all waste material is in a safe configuration.

2. **STOP** the work activity.

10.1 WCG Waste Processing Preparation (continued)

3. **COMPLY** with the RCT's instructions to minimize radiological exposure.

4. **NOTIFY** the WCRRF Operations Center of the condition, and **REQUEST** the applicable actions.

NOTE *Waste placed into daughter drums must be from a single parent drum except for the collection drum (pressurized container or aerosol can).*

[d] **IF** the waste material is **NOT** to be processed at this time as directed by supervision,
THEN:

1. **PLACE** the waste items from the parent drum into a daughter drum.

2. **BAG OFF** the parent and daughter drums in accordance with the applicable section of this procedure.

3. **IF** a Fire Watch was stationed,
THEN ENSURE that all INVENTORY is in a safe configuration, and **SECURE** the Fire Watch, and **CHECK** (√) YES or NO on Attachment 1.

4. **NOTIFY** the WCRRF Operations Center of the waste disposition.

10.1 WCG Waste Processing Preparation (continued)

NOTE 1 *Continued operation may require the work activity to be paused in order to allow operators and supervision to evaluate the condition to determine the necessary response to the situation (e.g., re-enter area under a different RWP or prepare a POC to accept the waste material).*

NOTE 2 ***($)*** *A STATIONARY FIRE WATCH is required in the OPERATION and WARM STANDBY MODE when the WCG INVENTORY is greater than 300 PE-Ci equivalent combustible waste. (AC 5.2.3)*

[D] **WHEN** the appropriate actions have been determined,
THEN GO to Step 10.1[15].

[15] **IF** any of the following items are identified during the processing of waste:

- Lead-elemental (e.g., circuit boards)
- Mercury-elemental (e.g., thermometers or switches)
- Batteries (e.g., lead/acid, nickel cadmium, or lithium)
- Light bulbs (i.e., incandescent or fluorescent)
- PCB items (e.g., ballasts, capacitors, or transformers)
- Liquids (any amount <u>not</u> remediated or absorbed)

THEN:

[A] **RECORD** the item descriptive information (item type, size, trade name, if available) in the Comments section of Attachment 1.

NOTE *The Waste Management Coordinator (WMC) may be notified at a time that operationally convenient.*

[B] **NOTIFY** the Waste Management Coordinator (WMC) of items found and whether the items were removed, placed into a separate collection container, or placed into a daughter drum.

NOTE 1 *The WMC can assist with assigning the appropriate RCRA Hazardous Waste Codes to the daughter drum.*

NOTE 2 *The following step may be performed when operationally convenient but must be completed the same day as the identification of the item.*

[C] **ENSURE** that the appropriate RCRA Hazardous Waste Codes is assigned to the drum that receives the item (e.g., daughter drum or collection drum).

10.1 WCG Waste Processing Preparation (continued)

WARNING

Glass sample vials may contain residual granular plutonium hydride which can generate sparks when subjected to mechanical agitation. To reduce the possibility of breaking a glass sample vial and the generation of sparks glass sample vials SHALL be without excessive force. (EP-DIV-REPORT-09)

NOTE *Multiple sections may be performed and repeated in order to completely disposition all of the waste from a parent drum.*

[16] **PERFORM** the following applicable sub-section:
- Section 10.2, Waste Material Greater Than 190 mrem/hr
- Section 10.3, Prohibited Item Disposition
- Section 10.4, Waste Splitting Activities
- Section 10.5, Repackaging Activities
- Section 10.6, Processing Nitrate Salt Drums

10.2 Waste Material Greater Than 190 mrem/hr

The following sub-section provides instructions for the disposition of waste material with an expected radiation dose rate of greater than 190 mrem/hr on contact with the outside of a waste container. Simulating that the waste material is inside of a daughter waste container (e.g., measured through drum lid) is the desired method of determining the expected radiation dose rate of waste material outside of a waste container.

NOTE 1 *Appendix 5, Flowchart for Processing of High Dose Items of Mixed Material Types, illustrates the process for POC operations.*

NOTE 2 *Waste containers with Nitrate Salt and a radiation dose rate of greater than 190 mrem/hr are to be processed in accordance with Section 10.6, Processing Nitrate Salt Drums, before performing this section. An attempt to reduce the radiation dose rate to less than or equal to 190 mrem/hr by absorbing the Nitrate Salt with absorbent should be attempted first. Nitrate Salt absorption reduces the quantity of POCs required to process the waste material.*

Waste Handling Technician

[1] **ENSURE** that a POC assembly has been prepared and is available.

10.2 Waste Material Greater Than 190 mrem/hr (continued)

[2] **DETERMINE** whether the serial numbers on the pipe component lid and the pipe component are the same.

[3] **IF** the serial numbers do **NOT** match,
THEN:

[A] **IDENTIFY** (e.g., tag or mark) the POC indicating that the POC is defective.

[B] **SEGREGATE** the POC in order to prevent the item from being used.

NOTE *The NCR may be initiated at a time that is operationally convenient.*

[C] **ENSURE** that an NCR is initiated in accordance with P330-6, Nonconformance Reporting, as required.

[D] **NOTIFY** the WCRRF Operations Center of the discrepancy.

[E] **GO** to Step 10.2[1].

[4] **IF** the POC is to be bagged onto the WCG,
THEN RECORD the following POC bag-on bag information on Attachment 1:
- Manufacturer
- Model Number
- Serial Number
- Date of Manufacture

[5] **PLACE** the POC assembly and shielding near the vicinity of the WCG to provide shielding during bag-off operations <u>or</u> bag-on the POC to the WCG in accordance with Section 8.1, Bag On Daughter Drum, Bagport, or Gloveport; and **RECORD** the POC drum number and POC unique identification number on Attachment 1.

[6] **IDENTIFY** items to be placed into a POC assembly, and **ENSURE** that an item description is recorded on Attachment 1.

10.2 Waste Material Greater Than 190 mrem/hr (continued)

[7] **IF** the item is to be bagged off of the WCG and the item is from a waste container with a mixed material type,
THEN:

[A] **REMOVE** any lead shielding from outside of the item, and **PLACE** the lead in a daughter drum.

[B] **ENSURE** that a description of the item is recorded on Attachment 1.

[C] **BAG OFF** the item in accordance with Section 9.1, WCG Item Bag Out.

[D] **IF** there is no lead shielding inside of the item (container),
THEN PLACE the bagged out item inside a shielded (pewter) container or cover with a lead blanket.

[E] **GO** to Step 10.2[9].

NOTE *Shielded container is only used for the purpose of ALARA and not for final waste packaging.*

[8] **IF** an individual item is to be bagged out of the WCG,
THEN:

[A] **BAG OUT** individual items in accordance with Section 9.1, WCG Item Bag Out.

[B] **PLACE** the bagged out items in shielded (pewter) container or cover with a lead blanket, as required.

NOTE 1 *A POC assembly drum is full when it has reached its weight limit of 547 lb, or is physically full.*

NOTE 2 *Waste placed into daughter drums or Pipe Overpack Containers (POCs) must be from a single parent drum.*

[9] **WHEN** the item is to be placed into a POC,
THEN ENSURE that the item has been removed from the shielded (pewter) container or lead blanket, as necessary.

[10] **PLACE** the items into the POC.

10.2 Waste Material Greater Than 190 mrem/hr (continued)

[11] **IF** the POC assembly is **NOT** full,
AND the parent drum is still being processed,
AND the POC assembly is **NOT** bagged onto the WCG,
THEN:

[A] **ALIGN** the lid holes with the holes in the pipe component body.

[B] **HAND-THREAD** the lid bolts as far as possible.

[C] **REPLACE** the fiberboard packaging, being careful to match the pipe bolt heads, hoist ring, and filter with cutouts in fiberboard.

[D] **REPLACE** the spacers, liner lid, and drum lid.

[E] **IF** there are additional 190 mrem/hr items to be bagged out of the WCG, **THEN GO** to Step 10.2[7].

[12] **IF** the POC is bagged onto the WCG,
THEN bag-off the POC in accordance with Section 8.2, Bag Off Daughter Drum

[13] **CLOSE** the POC assembly in accordance with the manufacturer's instructions and **DOCUMENT** (initials and Z number) that the POC assembly has been closed in accordance with the manufacturer's instructions on Attachment 1.

[14] **WEIGH** the POC assembly, and **RECORD** the POC Assembly Gross Weight on Attachment 1.

[15] **REQUEST** an RCT perform a radiation survey of the POC, and **RECORD** the POC radiation survey results on Attachment 1.

[16] **IF** the following requirements are **NOT** satisfied:
- External surface radiation dose rates less than 200 mrem/hr (DOE/WIPP-02-3122)
- Gross weight less than 547 lb for a 12 in. POC (CH-TRAMPAC)

THEN NOTIFY the WCRRF Operations Center of the discrepancy, and **REQUEST** the applicable actions.

[17] **LABEL** the POC assembly drum in accordance with EP-DIV-DOP-20043, LTP TRU Waste Container Labeling.

10.2 Waste Material Greater Than 190 mrem/hr (continued)

[18] **IF** all of the waste in the parent drum has **NOT** been dispositioned,
THEN GO to the appropriate sub-section to complete processing the remaining waste.

[19] **GO** to Section 11.1, Disposition.

10.3 <u>Prohibited Item Disposition</u>

The following sub-section provides instructions for the disposition of waste material that is considered to be prohibited items at WIPP.

NOTE 1 *The following activities associated with sorting parent drum waste such as the disposition of liquids, pressurized containers, and PCB-contaminated waste may be performed simultaneously or in any order.*

NOTE 2 *The Hold Tag for CCP NCRs is removed from the parent drum and returned to CCP personnel.*

NOTE 3 *A completed PID package includes the following documents:*
- *Attachment 1, WCRRF WCG Waste Processing Data Sheet*
- *Attachment 6, WCRRF Prohibited Item Collection Drum Data Sheet*
- *EP-WCRR-WO-DOP-0221 Attachment 1, Checklist for the Preparation of a New 55-Gallon Drum Assembly*
- *EP-WCRR-WO-DOP-0221 Attachment 2, Checklist for the Closing of a 55-Gallon Drum Assembly*
- *WDP Waste Remediation Safety Evaluation Data Sheet (EP-DIV-AP-0107 Attachment 1)*

Waste Handling Technician

[1] **LOCATE** any contained, uncontained, or free liquids.

NOTE 1 *Waste containers with liquids (any amount or configuration) that have <u>not</u> been solidified (absorbed) must be managed on secondary containment pallets and have a FREE LIQUID label affixed.*

NOTE 2 *By absorbing all liquids the resulting daughter drum is <u>not</u> required to be stored on a secondary containment pallet.*

[2] **IF** liquid is identified inside of transparent or opaque containers that is <u>less than or equal to</u> 60 ml in the containers,
AND the liquid is **NOT** to be absorbed,
THEN PLACE the containers with liquids into the daughter drum.

10.3 Prohibited Item Disposition (continued)

[3] **IF** liquid is identified inside of a transparent or opaque containers (e.g., contents adequately labeled),
THEN:

[A] **RECORD** the approximate liquid volume on Attachment 1.

[B] **OPEN** the containers.

[C] **PERFORM** a pH test of the liquid using Litmus Paper.
- Acid (less than 7)
- Caustic (base – greater than 7)

[E] **NEUTRALIZE** the liquid, as necessary.

[F] **OBTAIN** the appropriate absorbing agent, and **PLACE** the absorbent into a compatible container (e.g., bottle or bag) that has a volume of less than 4 Liters.

NOTE *Multiple containers of less than 4 liters may be required in order to absorb all of the free liquid.*

[G] **TRANSFER** the liquid into the compatible container (e.g., bottle or bag), and **PLACE** the container (e.g., bottle or bag) inside of the daughter drum.

NOTE *Waste containers with liquids (any amount or configuration) that have <u>not</u> been solidified (absorbed) must be managed on secondary containment pallets and have a FREE LIQUID label affixed.*

[4] **IF** liquid is identified in transparent containers or in opaque containers that **CANNOT** be safely opened (e.g., contents adequately labeled),
THEN:

[A] **PLACE** the containers into the daughter drum.

10.3 Prohibited Item Disposition (continued)

[B] **NOTIFY** the WCRRF Operations Center of the discrepancy, and **DOCUMENT** in the Comments section of Attachment 1.

NOTE *Liquids are not to be combined or bulked.*

[5] **IF** any free liquid is identified,
THEN:

[A] **DETERMINE** the approximate volume of liquid, and **DOCUMENT** the approximate amount of liquid on Attachment 1.

[B] **PERFORM** a pH test on the liquid using Litmus Paper.

[C] **NEUTRALIZE** the liquid, as necessary.

[D] **OBTAIN** the appropriate absorbing agent, and **PLACE** the absorbent in a compatible container (e.g., bottle or bag) that has a volume of less than 4 Liters.

[E] **ADD** a small amount of the free liquid to the container (e.g., bottle or bag).

[F] **IF** any reaction occurs between the absorbent and the free liquid,
THEN:

[a] **STOP** the addition work activities.

[b] **NOTIFY** the WCRRF Operations Center of the condition, and **REQUEST** the applicable actions.

[c] **DOCUMENT** the notifications and actions in the Comments section of Attachment 1.

10.3 Prohibited Item Disposition (continued)

NOTE *Multiple containers (e.g., bottle or bag) of less than 4 liters may be required in order to absorb all of the free liquid.*

[G] **IF** processing Nitrate Salts with free liquids,
THEN GO to Sub-section 10.6, Processing Nitrate Salt Drums.

[H] **MIX** the absorbent with the waste.

[I] **ENSURE** absorbent is thoroughly mixed with the liquid.

NOTE *Absorbing waste containers that are categorized as Nitrate Salts will generate additional daughter drums due to the amount of absorbent required to solidify the waste.*

[J] **PLACE** the containers (e.g., bottle or bag) inside of the daughter drum.

[K] **REPEAT** Step 10.3[5] until all liquids have been absorbed.

NOTE *Appendix 4, Volumes of Cylindrical Inner Containers Near 4 Liters, can be used to help determine whether a container is greater than 4 liters.*

[6] **LOCATE** sealed, unpressurized containers greater than 4 liters (that do <u>not</u> contain any liquid), and **DISPOSITION** the container as follows:

[A] **REMOVE** the tape, lid, cap, stopper, or other appropriate method.

[B] **PLACE** the dispositioned items into the daughter drum.

[7] **LOCATE** opaque or non-penetrable item (that do <u>not</u> contain any liquid), and **DISPOSITION** the container as follows:

10.3 Prohibited Item Disposition (continued)

[A] **DESCRIBE** in detail (e.g., size, shape, labeling, weight, material) the opaque or non-penetrable items on Attachment 1.

[B] **PLACE** the dispositioned items into the daughter drum.

[8] **LOCATE** potentially pressurized containers, and **DISPOSITION** the container as follows:

[A] **IF** there is evidence that a potentially pressurized container has been previously punctured and is empty,
THEN:

[a] **PLACE** a metal rod or equivalent (item found in the waste) inside the container and **SECURE** with tape, or **ENLARGE** the hole to be visible by Radiography.

[b] **PLACE** the container inside the daughter drum.

[B] **IF** a potentially pressurized container is **NOT** punctured,
THEN:

[a] **DECONTAMINATE** (wipe down) the potentially pressurized container.

[b] **BAG OUT** the potentially pressurized container in accordance with Section 9.1, WCG Item Bag Out.

[c] **PLACE** an Item Identification (ID) Number on the potentially pressurized container or bagout bag.

NOTE 1 *A collection drum for pressurized containers and aerosol cans will be established and placed inside one of the WCRRF Transportainers (TSDF).*

NOTE 2 *Pressurized cylinders and aerosol cans must be collected in separate drums (e.g., on collection drum for pressurized cylinders and one collection drum for aerosol cans. All other prohibited items that cannot be remediated must be collected in a separate (third) collection drum.*

[d] **PLACE** the potential pressurized container in a designated collection drum.

10.3 Prohibited Item Disposition (continued)

[e] **ENSURE** that the following information is recorded on Attachment 6 for each item:

- Collection drum number
- Collection drum type (pressurized container, aerosol, or other)
- Date collection drum waste created
- Date item is added to the collection drum
- Item Identification Number
- Parent Container Number
- Parent Accumulation Start Date
- Parent EPA Codes
- Item Description
- Item Shape
- Item Size
- Item Labeling
- Item Weight (lb)
- Initials and Z number

NOTE *The hazardous waste label may need to be replaced in order to ensure that all information is added and legible.*

[f] **ENSURE** that the accumulation start date on the collection drum reflects the earliest parent drum accumulation start date recorded on Attachment 6.

[g] **ENSURE** that all EPA Codes from the associated parent drums are documented on the collection drum hazardous waste label.

[9] **IF** any polychlorinated biphenyls (PCB)-contaminated waste is identified, **THEN:**

[A] **DESCRIBE** in detail (e.g., size, shape, labeling, weight, material) the PCB-contaminated waste on Attachment 1.

NOTE *The following step may be performed when operationally convenient.*

[B] **ATTACH** a PCB Item ID Number to the drum receiving the PCB waste (above the top rolling hoop and cover with clear tape), and **RECORD** the PCB Item ID Number on Attachment 1.

10.3 Prohibited Item Disposition (continued)

[C] **PLACE** the PCB-contaminated waste into a daughter drum.

[10] **DOCUMENT** a description of the type of remaining waste added to each daughter drum during the processing of waste from a parent drum on Attachment 1.

[11] **REPEAT** Steps 10.3[2] though 10.3[10] as necessary to completely resolve any PIDs within the parent drum.

[12] **IF** all of the waste in the parent drum has **NOT** been dispositioned,
THEN GO to the appropriate sub-section to complete processing the remaining waste.

NOTE *The following step may be performed out of sequence.*

[13] **DETERMINE** the level of waste placed into the daughter drum, and **RECORD** the Daughter Drum % Full value (%) on Attachment 1.

[14] **BAG OFF** waste containers in accordance with Section 7.2, Parent Drum Bag Off; and Section 8.2, Bag Off Daughter Drum.

[15] **GO** to Section 11.1, Disposition.

10.4 <u>Waste Splitting Activities</u>

The following steps provide instructions for the disposition of waste material with a PE-Ci value that requires the waste material to be divided into multiple daughter drums.

This sub-section is performed following the assaying of the parent drum and the determination of the number of daughter drums to be generated from the parent drum.

Waste Handling Technician

[1] **CAREFULLY REMOVE** a portion of the parent drum's contents (waste items).

[2] **NOTIFY** the Assay Personnel of the estimated weight of the items, as requested.

[3] **PLACE** the waste items into the WCG metal bucket.

[4] **LOWER** the metal bucket into the <u>east</u> daughter drum (closet to airlock).

10.4 Waste Splitting Activities (continued)

Assay Personnel

[5] **PERFORM** a radiological assay of the material in the east daughter drum in accordance with an approved procedure.

Waste Handling Technician

[6] **IF** the assay is higher than desired,
THEN:

[A] **LIFT** the metal bucket out of the east daughter drum.

[B] **REMOVE** some of the metal bucket contents.

[C] **GO** to Step 10.4[4].

[7] **LIFT** the metal bucket out of the east daughter drum.

NOTE *Waste placed into daughter drums or Pipe Overpack Containers (POCs) must be from a single parent drum.*

[8] **PLACE** the waste material into the west daughter drum (farthest from airlock)

[9] **REPEAT** Steps 10.4[1] through 10.4[8] until the desired radiological assay value is reached in the west daughter drum (farthest from airlock).

NOTE *The following step may be performed out of sequence.*

[10] **DETERMINE** the level of waste placed into the daughter drums, and **RECORD** the Daughter Drum % Full value (%) on Attachment 1.

[11] **BAG OFF** the west daughter drum (farthest from airlock) in accordance with Section 8.2, Bag Off Daughter Drum.

NOTE *Steps 10.4[12] and 10.4[13] may be performed in any order or concurrently.*

[12] **BAG ON** a new-west daughter drum (farthest from airlock) in accordance with Section 8.1, Bag On Daughter Drum, Bagport, or Gloveport.

10.4 Waste Splitting Activities (continued)

[13] **REPEAT** Steps 10.4[1] through 10.4[12] until all material within the parent drum has been processed.

[14] **WHEN** assaying of waste at the WCG is complete,
THEN ENSURE that the assaying equipment is removed from the WCG Exclusion Zone.

[15] **IF** all of the waste in the parent drum has **NOT** been dispositioned,
THEN GO to the appropriate sub-section to complete processing the remaining waste.

[16] **GO** to Section 11.1, Disposition.

10.5 <u>Repackaging Activities</u>

Waste Operator

[1] **REMOVE** waste items from the parent drum.

NOTE *Waste placed into daughter drums or Pipe Overpack Containers (POCs) must be from a single parent drum.*

[2] **PLACE** the waste items into a daughter drum.

[3] **DOCUMENT** any waste added during the processing of waste from a parent drum on Attachment 1.

NOTE *The following step may be performed out of sequence.*

[4] **DETERMINE** the level of waste placed into the daughter drums, and **RECORD** the Daughter Drum % Full value (%) on Attachment 1.

[5] **BAG OFF** the parent and daughter drums from the WCG in accordance with Section 7.2, Parent Drum Bag Off; and Section 8.2, Bag Off Daughter Drum.

[6] **IF** all the waste in the parent drum has **NOT** been dispositioned,
THEN GO to the appropriate sub-section in this procedure to complete processing of the remaining waste.

[7] **GO** to Section 11.1, Disposition.

10.6 Processing Nitrate Salt Drums

The following sub-section provides instructions for the disposition of Nitrate Salt drums that require the waste material to be mixed with absorbent material. Unless otherwise directed by supervision the minimum ratio of absorbent to Nitrate Salt is 3-parts absorbent to 1-part Nitrate Salt.

[1] **REMOVE** the waste items from the parent drum.

[2] **DOCUMENT** any waste items from the parent drum added to the daughter drum during the waste processing on Attachment 1.

[3] **ENSURE** that an organic absorbent (Kitty Litter/Zeolite® absorbent) is added to the waste material at a minimum ratio of 3-parts absorbent to 1-part waste or at a ratio as directed by supervision.

[4] **ENSURE** absorbent (Kitty Litter/Zeolite® absorbent) is thoroughly mixed with the Nitrate Salt material.

[5] **IF** the measured radiation level of the absorbent/Nitrate Salt mixture is greater than 190 mrem/hr,
AND multiple attempts to reduce the radiation level by splitting the absorbent/Nitrate Salt mixture have been attempted or directed by supervision,
THEN GO to Section 10.2, Waste Material Greater Than 190 mrem/hr.

[6] **IF** the measured radiation level of the absorbent/Nitrate Salt mixture is greater than 190 mrem/hr,
THEN:

[A] **SPLIT** the absorbent/Nitrate Salt mixture.

[B] **REPEAT** Steps 10.6[3] through 10.6[5] for each portion of the absorbent/Nitrate Salt mixture.

[7] **PLACE** process waste into daughter drum.

[8] **REPEAT** Steps 10.6[1] through 10.6[7] for all Nitrate Salt processing.

[9] **REMEDIATE** the contents of the parent drum for other items as applicable.

10.6 Processing Nitrate Salt Drums (continued)

NOTE *Absorbent waste containers that are categorized, as Nitrate Salts will generate additional daughter drums due to the amount of absorbent required to solidify the waste.*

[10] **DETERMINE** the level of waste placed into the daughter drums, and **RECORD** the Daughter Drum % Full value (%) on Attachment 1.

[11] **BAG OFF** the parent and daughter drums from the WCG in accordance with Section 7.2, Parent Drum Bag Off; and Section 8.2, Bag Off Daughter Drum.

[12] **CLOSE** the daughter drum in accordance with EP-WCRR-WO-DOP-0221, Preparing and Closing 55-Gallon Daughter Drum Assemblies.

11. POST-PERFORMANCE ACTIVITY

11.1 Disposition

Waste Handling Technician

[1] **SIGN** and **DATE** the applicable attachments.

Cognizant System Engineer

[2] **IF** UNSAT was checked on Attachment 5,
THEN:

[A] **PERFORM** an Immediate Operability Determination (IOD) in conjunction with the SOM in accordance with AP-341-516, Operability Determination and Functionality Assessment.

[B] **IF** the IOD is that the Structure, System, and Component (SSC) is operable, **AND** information is available that could change the outcome of the IOD, **THEN PERFORM** an Prompt Operability Determination for the deficiency in accordance with AP-341-516.

[C] **NOTIFY** the applicable Operations Center and SOM of the operability determination, as applicable.

[D] **PRINT, SIGN, Z number** and **DATE** Attachment 5.

SOS or designee

[3] **IF** a Fire Watch was stationed,
THEN ENSURE all INVENTORY is in a safe configuration, and **SECURE** the Fire Watch, and **CHECK** (√) YES or NO on Attachment 1.

[4] **REVIEW** the applicable attachments for accuracy and completeness.

[5] **IF** any discrepancies are identified,
THEN RESOLVE the discrepancies with the original surveillant to correct the documentation.

11.1 Disposition (continued)

[6] **IF** Attachment 5 was completed,
THEN:

[A] **CHECK** (√) YES or NO to indicate whether the applicable acceptance criteria is satisfied on Attachment 5.

[B] **IF** the applicable acceptance criteria is **NOT** satisfied,
THEN:

[a] **ENSURE** that the applicable TSR actions have been implemented.

[b] **ENSURE** that the actions of EP-DIV-AP-13, EWMO TSR-Related Operational Limits Actions Compliance Tracking, have been implemented.

[c] **ENSURE** that the WCRRF Operations Center, SOM and EWMO Facility Operations Director (FOD) have been notified of the discrepancy.

[7] **PRINT, SIGN,** and **RECORD** Z#, Date/Time on the applicable attachments.

[8] **FORWARD** the applicable attachments to the WCRRF Operations Center.

[9] **ENSURE** that the Administrative Control Lock Log Sheet form, lock and key are returned to WCRRF Operation Center.

[10] **IF** a prohibited item collection drum was brought into TA-50-69,
AND waste processing is complete,
THEN ENSURE that the prohibited item collection drum is moved out of TA-50-69.

NOTE *Completing a Post-Job Review may be accomplished using the applicable P300 form or online (the preferred method since the institution has access to feedback and lessons learned http://int.lanl.gov/safety/iwmc/ [Click on the Submit IWD Part 4, Post-Job Review]).*

[11] **IF** any of the following occur:

- A new activity was completed for the first time
- A request was made by anyone involved with the performance of this procedure to perform a post-job review
- An abnormal event occurred
- A revision to an existing procedure was issued and it has been determined by the procedure owner or designee that a Post-Job Review is required

THEN PERFORM a Post-Job Review in accordance with P300.

11.1 Disposition (continued)

[12] **IF** the Post-Job Review identified any necessary changes to this procedure, **THEN INITIATE** a revision to this procedure.

11.2 Records Processing

Waste Handling Technician or Supervision

[1] Disposition records in accordance with the following:

Record Identification	Record Type Determination	Protection/Storage Method	Processing Instructions
Attachment 1, WCRRF WCG Waste Processing Data Sheet Attachment 2, WCRRF WCG Critical Lift Plan Concurrence Sheet Attachment 3, WCRRF WCG Drum Lift Inspection Data Sheet Attachment 4, WCRRF WCG Breaching (Opening) Unvented, Sealed Waste Packages Checklist Attachment 5, WCRRF WCG Breaching (Opening) Metal 5- to 30 gal Unvented, Sealed Waste Package Surveillance Attachment 6, WCRRF Prohibited Item Collection Drum Data Sheet	Quality Assurance (QA) Record	Supervision **SHALL** implement a reasonable level of protection to prevent loss and degradation. Records should be maintained in a one-hour fire rated metal file cabinet when not in use. The instructions in this section may vary depending on the record such as some records may be retained in an Operations Center for a period of time (e.g., 1 year) in order to provide trending data or evidence of compliance.	When the records are ready for final disposition, the record is transferred to Records Management in accordance with EP-DIR-AP-10003, Records Management Procedure For ADEP Employees.

12. REFERENCES

ABD-WFM-006, Technical Safety Requirements (TSRs) for Waste Characterization, Reduction, and Repackaging Facility (WCRRF)

AP-341-516, Operability Determination and Functionality Assessment

CCP-TP-113, CCP Standard Waste Visual Examination

CH-TRAMPAC, Contact Handled – Transuranic Waste Authorized Methods for Payload Control

DOE/WIPP-02-3122, Transuranic Waste Acceptance Criteria For Waste Isolation Pilot Plant

EP-DIV-AP-0112, WDP Pre-Job Briefings

EP-DIV-AP-13, EWMO TSR-Related Operational Limits Actions Compliance Tracking

EP-DIV-AP-20047, LTP Glovebox/Glovebag and Glove Safety Program

EP-DIV-AP-0107, WDP TRU Waste Container Management Operations

EP-DIV-AP-0108, LTP Waste Record (TWSR/WDR) Initiation and Label Creation

EP-DIV-AP-0117, WDP Division Forms

EP-DIV-AP-0120, EWMO Watchbill Administration

EP-DIV-Policy-20057, EWMO Health and Safety Policy-Manual Movement

EP-DIV-REPORT-09, Engineering Path Forward Report for CMR Wing 2 Containers

EP-DIR-AP-10003, Records Management Procedure For ADEP Employees

EP-WCRR-FO-DOP-0201, WCRRF and Building TA-50-69 TSR Mode Change

EP-WCRR-RM-AOP-0208, Special Shapes

EP-WCRR-WO-DOP-0221, Preparing and Closing 55-gal Daughter Drum Assemblies

EP-WCRR-WO-DOP-0236, WCRRF Loading/Unloading SWB or 85-gal Drum

12. REFERENCES (continued)

EP-WCRR-WO-DOP-0239, Verifying WCRRF Scales

EWMO-DO-07-042, Memo. Dtd. Jul 6 ,2007, WCRRF Pu-238 Glovebag Issue

Form 1489, Pre-Operational Inspection Record for Overhead Cranes and Hoists

P101-18, Procedure for Pause/Stop Work

P101-25, Cranes, Hoists, Lifting Devices, and Rigging Equipment

P121, Radiation Protection

P330-6, Nonconformance Reporting

APPENDIX 1
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WASTE DRUM CRITICAL LIFT PLAN

Purpose

This critical lift plan is used for loading degraded or loss of integrity drums or drums that satisfy the critical lift requirements of P101-25 with the WCG Drum Lift as required by ABD-WFM-006, Technical Safety Requirements (TSRs) for Waste Characterization, Reduction, and Repackaging Facility (WCRRF). This critical lift plan must be used to lower degraded drums with waste material using the WCG Drum Lift. This plan will be used to handle and prepare waste drums at Area-G and at WCRRF for a critical lift.

General Guidelines/Notes

This critical lift plan has been prepared in accordance with P101-25, Cranes, Hoists, Lifting Devices, and Rigging Equipment.
Drum handling operations involving degraded/loss of integrity drums or drums that satisfy the requirements for a critical lift in accordance with P101-25 (e.g., drums weighing greater than 468 lb) at WCRRF are performed using approved procedures and lifting equipment specifically designed for this operation.
The following information **SHALL** be reviewed during the critical lift pre-job brief:

1. All lifting and signaling **SHALL** be performed by a qualified operator. Supervision will be by a designated Qualified Crane Operator and Rigger Person-In-Charge (PIC) and documented on the WCRRF WCG Critical Lift Plan Concurrence Sheet.

2. The WCG Drum Lift and drums **SHALL** be visually inspected by the operator and/or qualified PIC. Any noted substandard item **SHALL** be cause for suspending operations until an acceptable replacement is acquired.

3. The rigging procedure **SHALL** be followed. Where changes are required due to site conditions, the changes **SHALL** be reviewed and approved by the Qualified Crane Operator and Rigger PIC.

4. The weight of the load **SHALL** include the 55 gal drum and lead blankets (if used for shielding purposes). In no case should the lift exceed 624 lb.

5. Communications between the WCG pendant operator and PIC **SHALL** be clear and unobstructed. The primary system **SHALL** be voice communications. Only designated, qualified signalers **SHALL** give signals to the operator. However, the operator **SHALL** obey a stop signal at all times, no matter who gives the signal.

6. <u>A pre-lift meeting with all responsible persons **SHALL** be held before the lifts and each person **SHALL** be assigned specific duties and sign the pre-job sheet.</u>

7. The equipment to be used for this lift will be as applicable: WCG Drum Lift.

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Page 2 of 3

Project Notes and Specifications

1. The primary goal is to perform a safe lift in a timely manner.
2. This lift has been frequently performed with equipment stated in this plan. A preliminary lift is not required but if any discrepancies are noted during the lift, the project **SHALL** be stopped and re-evaluated by the Qualified Operator, and Qualified Crane Operator and Rigger PIC.
3. The drum **SHALL** be positioned secured in the WCG Drum Lift to facilitate SAFE and efficient operation. The drum lift pendant operator **SHALL** announce operation of the lift before commencing raising/lowering of the drum and all personnel **SHALL** stand clear and to the side of drum movement. The work area for assembling the payload **SHALL** be limited to personnel necessary for the operation. (Example: Operator, signal personnel, PIC, and RCTs.)
4. The lift requires understanding by the entire crew. This lift plan **SHALL** be thoroughly reviewed by the personnel performing the lift and the Critical Lift / Pre-Lift Meeting **SHALL** be conducted before the lift to ensure that all personnel are aware of their assigned duties. Each person involved in the lift must attend the meeting and sign the attendance sheet.

Competent Person / Lift Supervisor

The responsible person for this lift is the designated Qualified Crane Operator and Rigger PIC.

Emergency Action Plan

1. In the event that an emergency occurs, all operations **SHALL** be discontinued and any raised load **SHALL** be lowered/secured, if possible. For specific casualties, operators will also perform required actions of applicable procedures in the WCRRF Response Manual.
2. Each portion of the lift presents a slightly different set of variables as related to a direction and area where the components may be set down temporarily during an emergency.
3. During the pre-lift meeting the operators, riggers, and spotter are to specifically discuss emergency actions at various points during the lift. If the raised load has to be secured the operator will do so and contact the RCT and Qualified Crane Operator and Rigger PIC. All non-essential personnel are to be kept clear of the lift area.
4. The operator and rigging personnel will not resume the lift operations without approval from the RCT and the Qualified Crane Operator and Rigger PIC.
5. In the event of an equipment malfunction and the drum cannot be lowered/secured:
   - The operation will be placed in a safe configuration.
   - The waste will be unloaded from the drum and the drum will be manually removed from the drum lift, if possible, or the CSE will be notified for the applicable actions.

Hazard Assessment

This lift has been reviewed in great detail to ensure a safe lift and minimize hazards. The following items have been identified as unique for this lift.

In no case **SHALL** material being lifted weigh more than 624 lb. (drum + lead shielding).

APPENDIX 1
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Test Lift—A test lift is not required for this operation.
Travel Path—At the pre-job/lift briefing a spotter(s) **SHALL** be designated to observe the load along the entire travel path (consider slopes and uneven surfaces).

Overhead Instructions—The Qualified Crane Operator and Rigger PIC and rigging crew **SHALL** physically verify the travel path is clear of overhead obstructions before beginning the lift.

Working Around the Load (Cone of Safety) - Absolutely NO ONE **SHALL** be under the load, or while it is being raised, lowered, or moved. The Qualified Crane Operator and Rigger PIC **SHALL** ensure that the area (in front of the WCG Drum Lift) is clear of non-essential personnel. Specific placement of operators and RCTs **SHALL** be established during the pre-lift meeting.

Securing the Drum Lifting Assembly—The rigging crew s **SHALL** inspect the WCG Drum Lift before lifting a drum.

Equipment List

Ensure the following equipment is present, has undergone physical inspection, is properly calibrated and is ready to support the critical lift steps:

- WCG Drum Lift

Work Steps for Loading a 55 Gallon Drum Using the WCG Drum Lift

Step 1 Verify the drums weighs less than 624 lb.

Step 2 Obtain key from key box, Insert key, and turn on the power to the drum lift.

Step 3 Using the drum lift pendent, lower the drum lift to the lower limit switch or until the bellyband of the lift cradle can grasp the drum evenly.

Step 4 Position the drum on the drum lift with the drum bolt ring accessible for lid removal when inside the glovebox.

Step 5 Close and secure the bellyband, ensuring the bag-off sleeve does not get caught on the bellyband.

Step 6 Raise the drum to the horizontal port and stop, leaving an adequate gap (approximately 12 inches) to mount the bag-off sleeve to the horizontal port.

Step 7 Bag on the parent drum in accordance with this procedure.

Step 8 Turn off the power to the drum lift, remove key, and place in key box.

APPENDIX 2
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WCRRF ALLOWED CONTAINER TYPES FOR REMEDIATION

The following "allowed" container types may be remediated in the WCRRF glovebox because there is no concern for hydrogen buildup within the container:

- Containers without a gasket (e.g. containers with slip lids, paint cans, "produce cans" and other similar containers) of any size
- Containers of any size with slip-on lids (with or without a gasket)
- Empty containers of any size
- Fiber board containers of any size
- Sealed containers of any size not containing TRU waste or free liquids
- Any containers with a volume < (less than) 4 liters
- Unvented 5- to 30-gal waste packages

APPENDIX 3
Page 1 of 1

EXAMPLE PREOPERATIONAL INSPECTION RECORD FOR OVERHEAD CRANES AND HOISTS

NOTE: Use these buttons to print or save the form. DO NOT use the browser tool bar. SAVE PRINT

Form 1489

Los Alamos NATIONAL LABORATORY EST. 1943

Preoperational Inspection Record for Overhead Cranes and Hoists

Inspector	Date Inspected	Location
Manufacturer and Type		Serial Number and Rated Capacity

Current Inspections

- Current Annual ANSI/OSHA Inspection Date: _____
- Current Annual Mechanical and Electrical (*if applicable*) PM's Date: _____
- Current Monthly Inspection Date: _____

Main or Auxiliary Hoist Rope			
• Is there any distortion such as kinking, crushing, unstranding, bird-caging, heat damage, or core protrusion?	☐ Yes	☐ No	☐ N/A
• Are there six randomly distorted broken wires per rope lay or three broken wires per strand per rope lay?	☐ Yes	☐ No	☐ N/A
• Is there wear of 1/3 the original diameter of outside individual wires?	☐ Yes	☐ No	☐ N/A
Load Chain			
• Is there elongation or distortion?	☐ Yes	☐ No	☒ N/A
• Any twisting, corrosion, pitting, or discoloration?	☐ Yes	☐ No	☒ N/A
• Any gouges, nicks, or weld splatter?	☐ Yes	☐ No	☒ N/A
Spooling, Reeving			
• Is there cross-winding?	☐ Yes	☐ No	☐ N/A
• Are the rope stays together and in alignment?	☐ Yes	☐ No	☐ N/A
• Is there any double winding or overwinding?	☐ Yes	☐ No	☐ N/A
• Is there minimum of two wraps at lowest position?	☐ Yes	☐ No	☐ N/A
Anchoring			
• Anchoring secured or installed in accordance with manufacturer's recommendations?	☐ Yes	☐ No	☐ N/A
• Is there minimum of two wire rope clips?	☐ Yes	☐ No	☒ N/A
Main or Auxiliary Hook			
• Is the throat opening not greater than 15% of normal?	☐ Yes	☐ No	☒ N/A
• Is there less than ten-degree twist out of plane?	☐ Yes	☐ No	☒ N/A
• Any deformities or cracks?	☐ Yes	☐ No	☒ N/A
• Are the safety latches present and functional?	☐ Yes	☐ No	☒ N/A
Markings			
• Are the rated capacities conspicuously posted?	☐ Yes	☐ No	☐ N/A
• Are the controllers properly marked? Are remote crane controllers affixed a label which contains the following information? (crane manufacturer, location, and other information specific to the unit being operated) _____	☐ Yes	☐ No	☐ N/A
• Is the main disconnect properly marked?	☐ Yes	☐ No	☐ N/A
Are the items listed functional?			
• Brakes	☐ Yes	☐ No	☐ N/A
• Controllers	☐ Yes	☐ No	☐ N/A
• Limit switches	☐ Yes	☐ No	☐ N/A
• Lights, warning devices	☐ Yes	☐ No	☒ N/A
• Trolley	☐ Yes	☐ No	☐ N/A
• Bridge	☐ Yes	☐ No	☒ N/A
• Main or auxiliary load	☐ Yes	☐ No	☐ N/A

Remarks:

EXAMPLE

Form 1489 (12/10)

APPENDIX 4
Page 1 of 1

VOLUMES OF CYLINDRICAL INNER CONTAINERS NEAR 4 LITERS

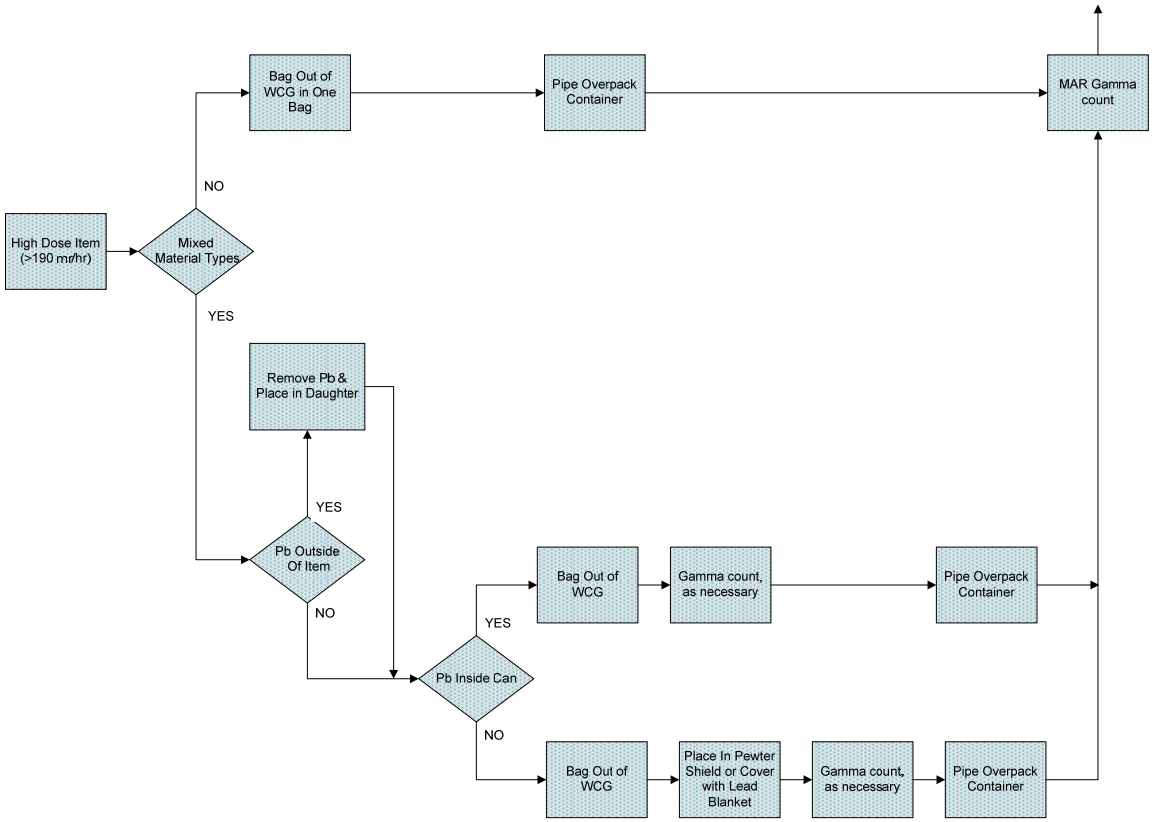
Diameter		Height		Volume (liters)
3”	7.6 cm	12”	30.5 cm	< 4
3”	7.6 cm	18”	45.7 cm	< 4
4”	10.7 cm	12”	30.5 cm	< 4
4”	10.7 cm	18”	45.7 cm	> 4
4.5”	11.4 cm	12”	30.5 cm	< 4
4.5”	11.4 cm	14”	35.6 cm	< 4
4.5”	11.4 cm	16”	40.6 cm	> 4
4.5”	11.4 cm	18”	45.7 cm	> 4
5”	12.7 cm	8”	20.3 cm	< 4
5”	12.7 cm	10”	24.5 cm	< 4
5”	12.7 cm	12”	30.5 cm	> 4
5”	12.7 cm	14”	35.6 cm	> 4
5.5”	14 cm	8”	20.3 cm	< 4
5.5”	14 cm	10”	24.5 cm	> 4
5.5”	14 cm	12”	30.5 cm	> 4
6”	15.2 cm	8”	20.3 cm	> 4
6”	15.2 cm	10”	24.5 cm	> 4
6.5”	16.5 cm	8”	20.3 cm	> 4
7”	17.8 cm	6.5”	16.5 cm	> 4

<4 = less than 4 liters and does <u>not</u> require remediation

> 4 = greater than 4 liters and requires remediation

APPENDIX 5
Page 1 of 1

FLOWCHART FOR PROCESSING OF HIGH DOSE ITEMS OF MIXED MATERIAL TYPES



APPENDIX 6
Page 1 of 1

ADMINISTRATIVE CONTROL LOCK LOG SHEET

(Used when needed to track component manipulation)

NOTE: Refer to P315, Conduct of Operations Manual, Attachment 8, Section 8.1.5, for additional guidance.

Facility/Location: _____

Component No.	Authorized By (Shift Mgr.)	New Position	Positioned By	Verified By	Date/ Time	Restored By	Verified By	Date/ Time	Authorized By (Shift Mgr.)

ATTACHMENT 1
Page 1 of 4

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: _____

6.2[4] Date Processed: _____

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☐ PID ☐ Split ☐ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: _____

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☐ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] **($)** TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☐ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: _____
Cal. Due Date: _____

4.3[5][B] **($)** Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☐ YES ☐ NO ☐ N/A

4.3[6] **($)** Stationary Fire Watch has been established:
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☐ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☐ SAT ☐ UNSAT ☐ N/A

Performed By: _____ / _____ / _____ / _____
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B] Parent Waste Container No.: _____

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: _____ lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): _____ lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) _____ lb

6.2[7] **($)** Total Parent Drum Weight < 624 lb (SR 4.5.1): ☐ SAT ☐ UNSAT

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

EWMO-FOD (print)	/ Signature	/ Z #	/ Date

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: _____

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.				
10.1[4]	Daughter Drum Filter No.				
10.1[4]	Daughter Drum Bag Filter No.				
10.1[4]	Daughter Drum Purchase Order No.				
10.1[13][C]	WCG Fire Watch Stationed		☐ YES	☐ NO	☐ N/A
10.1[14][C][d]3/11.1[3]	WCG Fire Watch Secured		☐ YES	☐ NO	☐ N/A
10.2[4]	POC bag-on bag: Manufacturer				
	Model No.				
	Serial No.				
	Date of Manufacture				
10.2[5]	POC ID No				
10.2[7][B]/10.2[6]	POC Item Description				
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)				
10.2[14]	POC Assembly Gross Weight (lb)				
10.2[15]	POC Rad. Survey Results (mrem/hr)				
10.3[3][A]	Approx. Containerized Liquid Vol./Units				
10.3[5][A]	Free Liquid Volume/Units				
10.3[7][A]	Opaque/Non-penetrable Item Description:				
10.3[9][A]	PCB-contaminated Waste Description				
10.3[9][B]	PCB Item ID No.				
10.3[10]	Remaining Waste Description				
10.3[13]/10.4[10]/ 10.5[4]/10.6[10]	Daughter Drum % Full (%)				
10.5[3]/10.6[2]	Description Waste Added During Processing				

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No.: _____

Comments: _____

_____
_____
_____
_____
_____
_____
_____
_____

11.1[1] Performed By: _____ / _____ / _____ / _____
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: _____ / _____ / _____ / _____
SOS or designee (print) Signature Z # Date/Time

ATTACHMENT 2
Page 1 of 1

WCRRF WCG CRITICAL LIFT PLAN CONCURRENCE SHEET

Critical Lift Concurrence

NOTE *By signing below, I hereby confirm that I have read and understand this critical lift plan, I concur with the information contained herein, and I am authorizing the work to proceed per this plan.*

Name/Signature	Assignment	Date
	Certified Hoisting/Rigging PIC	
	Drum Lift Operator (Certified Hoisting/Rigging Operator)	

ATTACHMENT 3
Page 1 of 2

WCRRF WCG DRUM LIFT INSPECTION DATA SHEET

6.1[2] Inspection Date: _____

6.1[4] Previous number of shaft bolt threads exposed:
- Upper Pulley Bolt Threads visible: _____
- Middle Pulley Bolt Threads visible: _____
- Lower Pulley Bolt Threads visible: _____

6.1[5] Current number of shaft bolt threads exposed:
- Upper Pulley Bolt Threads visible: _____
- Middle Pulley Bolt Threads visible: _____
- Lower Pulley Bolt Threads visible: _____

6.1[6] Shaft bolt end is flush with or extends out of the outer end of the shaft bolt locknut
- Upper Pulley Bolt Threads visible: ☐ YES ☐ NO
- Middle Pulley Bolt Threads visible: ☐ YES ☐ NO
- Lower Pulley Bolt Threads visible: ☐ YES ☐ NO

6.1[7] Shaft bolts do not show any sign of wear between the shaft bolt and the support flange (e.g., shaft not perpendicular to the flange plate):
- Upper Pulley Assembly: ☐ SAT ☐ UNSAT
- Middle Pulley Assembly: ☐ SAT ☐ UNSAT
- Lower Pulley Assembly: ☐ SAT ☐ UNSAT

6.1[9] New upper wire rope damage observed: ☐ YES ☐ NO

TABLE 3-1, UPPER WIRE ROPE DAMAGE

Description of Wire Rope Damage (e.g., wire break, corrosion, or pinch) (6.1[3]/6.1[10])	Previously Identified Damage (√) (6.1[3])	Damage Location from Hoist Drum (inches) (6.1[10])	Distance from damage to nearest wire break (inches) (6.1[10])

ATTACHMENT 3
Page 2 of 2

6.1[2] Inspection Date: _____

6.1[12] New lower wire rope damage observed: ☐ YES ☐ NO

TABLE 3-2, LOWER WIRE ROPE DAMAGE

Description of Wire Rope Damage (e.g., wire break, corrosion, or pinch) (6.1[3]/6.1[13])	Previously Identified Damage (√) (6.1[3])	Damage Location from Hoist Drum (inches) (6.1[13])	Distance from damage to nearest wire break (inches) (6.1[13])

6.1[14][A]/ 6.1[15] There is no more than one wire break within a 2-in. span along the wire rope: ☐ SAT ☐ UNSAT

Comments: _____

6.1[16][A]/ 11.1[1] Performed By: _____ / _____ / _____ / _____
Operator (print) Signature Z # Date

11.1[7] Reviewed By: _____ / _____ / _____ / _____
SOS or designee (print) Signature Z # Date/Time

ATTACHMENT 4
Page 1 of 1

WCRRF WCG BREACHING (OPENING) UNVENTED, SEALED WASTE PACKAGES

10.1[10][A] Parent Drum Container ID: _____ Page _____ of _____

Unvented-Sealed Waste Package type: (10.1[10][B])	☐ Metal 5- to 30-gal ☐ Non-metallic 5- to 30-gal ☐ < 5 gal	☐ Metal 5- to 30-gal ☐ Non-metallic 5- to 30-gal ☐ < 5 gal	☐ Metal 5- to 30-gal ☐ Non-metallic 5- to 30-gal ☐ < 5 gal	☐ Metal 5- to 30-gal ☐ Non-metallic 5- to 30-gal ☐ < 5 gal
($) Non-spark producing tools available in WCG. (SAC 5.10.1.6.1) (10.1[10][C])	☐ YES ☐ NO			
($)WCG electrical receptacles de-energized and locked open/off. (SAC 5.10.1.6.2) (10.1[10][D])	☐ SAT ☐ UNSAT			
($) 5- to 30-gal waste package lid restraint inspected for degradation (e.g., no indication of cracked parts, missing fasteners, loose or frayed parts, excessive wear, or unusual deformation), and determined to be capable of restricting lid. (SAC 5.10.1.5.1) (10.1[11][A])	☐ SAT ☐ UNSAT ☐ N/A < 5 gal	☐ SAT ☐ UNSAT ☐ N/A < 5 gal	☐ SAT ☐ UNSAT ☐ N/A < 5 gal	☐ SAT ☐ UNSAT ☐ N/A < 5 gal
($) Waste package lid restraint attached to waste package and proper installation verified. (SAC 5.10.1.5.1) (10.1[11][B])	☐ SAT ☐ UNSAT ☐ N/A < 5 gal	☐ SAT ☐ UNSAT ☐ N/A < 5 gal	☐ SAT ☐ UNSAT ☐ N/A < 5 gal	☐ SAT ☐ UNSAT ☐ N/A < 5 gal
($) Time 5- to 30-gal lid and lid restraint removed from the waste package. (Start Time) (SAC 5.10.1.5.2) or SAC 5.10.1.6.3) (10.1[11][I])	_____ ☐ N/A < 5 gal	_____ ☐ N/A < 5 gal	_____ ☐ N/A < 5 gal	_____ ☐ N/A < 5 gal
($) Time since 5- to 30-gal lid and lid restraint removed from the waste package. (SAC 5.10.1.5.2) or SAC 5.10.1.6.3) (10.1[11][K])	_____ ☐ N/A < 5 gal	_____ ☐ N/A < 5 gal	_____ ☐ N/A < 5 gal	_____ ☐ N/A < 5 gal
($) Elapsed time since 5- to 30-gal lid and lid restraint removed from waste package is ≥ 30 minutes, and glovebox operations may resume and WCG electrical receptacles may be re-energized. (SAC 5.10.1.5.2) or SAC 5.10.1.6.3) (10.1[11][K])	☐ SAT ☐ UNSAT ☐ N/A < 5 gal	☐ SAT ☐ UNSAT ☐ N/A < 5 gal	☐ SAT ☐ UNSAT ☐ N/A < 5 gal	☐ SAT ☐ UNSAT ☐ N/A < 5 gal
($) Time < 5-gal lid removed from the waste package. (Start Time) (SAC 5.10.1.6.3) (10.1[12][B])	_____ ☐ N/A > 5 gal	_____ ☐ N/A > 5 gal	_____ ☐ N/A > 5 gal	_____ ☐ N/A > 5 gal
($) Time since < 5-gal lid removed from the waste package. (End Time) (SAC 5.10.1.6.3) (10.1[12][C][a])	_____ ☐ N/A > 5 gal	_____ ☐ N/A > 5 gal	_____ ☐ N/A > 5 gal	_____ ☐ N/A > 5 gal
($) Elapsed time since < 5-gal lid removed from waste package is ≥ 30 minutes, and WCG electrical receptacles may be re-energized. (SAC 5.10.1.6.3) (10.1[12][C][a])	☐ SAT ☐ UNSAT ☐ N/A > 5 gal	☐ SAT ☐ UNSAT ☐ N/A > 5 gal	☐ SAT ☐ UNSAT ☐ N/A > 5 gal	☐ SAT ☐ UNSAT ☐ N/A > 5 gal

Comments: _____

11.1[1] Performed By: _____ / _____ / _____ / _____
Operator (print) Signature Z # Date

11.1[7] Reviewed By: _____ / _____ / _____ / _____
SOS or designee (print) Signature Z # Date/Time

ATTACHMENT 5
Page 1 of 1

WCRRF WCG BREACHING (OPENING) 5- to 30-gal
METAL UNVENTED, SEALED WASTE PACKAGE SURVEILLANCE

10.1[10][E][a] Waste Container ID: _____

10.1[10][E][b] **($)** 55-gal parent drum containing an unvented-sealed METAL 5- to 30-gal waste package grounded to the WCG with a grounding strap that is firmly attached at all ends to clean-bare metal surfaces. (SR 4.6.1) ☐ SAT ☐ UNSAT

10.1[10][E][c] **VERIFY** that the grounding strap is attached ☐ SAT ☐ UNSAT

10.1[11][C] **($)** Unvented-sealed METAL 5- to 30-gal waste package grounded to the WCG with a grounding strap that is firmly attached at all ends to clean-bare metal surfaces. (SR 4.6.1) ☐ SAT ☐ UNSAT

10.1[11][D] **VERIFY** that the grounding strap is attached ☐ SAT ☐ UNSAT

11.1[11[E] Verified By: _____ / _____ / _____ / _____
Print Signature Z # Date

Comments: _____

11.1[1] Performed By: _____ / _____ / _____ / _____
Waste Handling Tech (print) Signature Z # Date

11.1[2][D] Reviewed By: _____ / _____ / _____ / _____
CSE (print) Signature Z # Date

11.1[6][A] Acceptance criteria satisfied: ☐ YES ☐ NO

11.1[7] Reviewed By: _____ / _____ / _____ / _____
SOS or designee (print) Signature Z # Date/Time

ATTACHMENT 6
Page 1 of 1

WCRRF PROHIBITED ITEM COLLECTION DRUM DATA SHEET

Container No. (10.3[8][B][e]):	Type (10.3[8][B][e]): ☐ Pressurized Container ☐ Aerosol Cans ☐ Other: _____	PE-Ci Value: **8 PE-Ci**	Date Created (10.3[8][B][e]):	Page _____ of _____

Date Item Added (10.3[8][B][e])	Item ID No. (10.3[8][B][e])	Parent Container No. (10.3[8][B][e])	Parent Accumulation Start Date (10.3[8][B][e])	Parent EPA Codes (10.3[8][B][e])	Item Description (10.3[8][B][e])	Item Shape (10.3[8][B][e])	Item Size (10.3[8][B][e])	Item Labeling (10.3[8][B][e])	Item Weight (lb) (10.3[8][B][e])	Initials/Z# (10.3[8][B][e])

Smart, Ronald A

From: Jalbert, Louis E
Sent: Tuesday, March 12, 2013 7:58 AM
To: Smart, Ronald A
Subject: RE: ACTION REQUIRED: need permission to process a DAR for Revision 2 to EP-WCRR-WO-DOP-1101

Please proceed!

Louis Jalbert - CHMM
Operations Manager
LTP-DDP
505-667-1458 (office)
505-699-1559 (cell)

From: Smart, Ronald A
Sent: Tuesday, March 12, 2013 7:57 AM
To: Jalbert, Louis E
Subject: RE: ACTION REQUIRED: need permission to process a DAR for Revision 2 to EP-WCRR-WO-DOP-1101

Mr. Lou

Still need your OK on this DAR. Thanks.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

From: Smart, Ronald A
Sent: Monday, January 14, 2013 5:04 AM
To: Jalbert, Louis E
Subject: RE: ACTION REQUIRED: need permission to process a DAR for Revision 2 to EP-WCRR-WO-DOP-1101

Mr. Lou

Still need your blessing to process this DAR. Thanks.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

From: Smart, Ronald A
Sent: Friday, January 11, 2013 12:40 PM
To: Jalbert, Louis E
Subject: ACTION REQUIRED: need permission to process a DAR for Revision 2 to EP-WCRR-WO-DOP-1101

Mr. Lou

I have received some comments on EP-WCRR-WO-DOP-1101 and I need your permission to process a DAR for Revision 2 to this procedure.

Thanks

Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

Smart, Ronald A

From: Leah K. Lavallee [lklavallee@energysolutions.com]
Sent: Thursday, March 14, 2013 11:19 AM
To: Smart, Ronald A
Subject: Re: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

No comments.

Sent from my iPhone

On Mar 14, 2013, at 4:47 AM, "Smart, Ronald A" <rsmart@lanl.gov> wrote:

Ms Leah

I understand that you are out, but as the EnergySolutions Field Operations Manager I am required to get your concurrence on any documents affecting EngergySolutions. Can you take a look at the attached changes or let me know who could review this for you. Thanks.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

From: Smart, Ronald A
Sent: Wednesday, March 13, 2013 4:25 AM
To: 'lklavallee@energysolutions.com'; Bement, Rob
Cc: Jalbert, Louis E; Fernandez, Genevieve S; Guadagnoli, John F; Frederici, Dave
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

Ms Leah / Mr. Rob

Just need your input (comments or concurrence) so that I can send this revision for USQ evaluation. Thanks.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

From: Smart, Ronald A
Sent: Monday, March 11, 2013 3:41 PM
To: 'lklavallee@energysolutions.com'; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

I have made some additional changes based on discussions with various individuals and wanted to send the latest draft for your consideration. The green text indicates the additional changes and includes adding neutralization step and the removal of the requirement to initiate an NCR for waste issues.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

From: Smart, Ronald A
Sent: Monday, March 11, 2013 5:48 AM
To: lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Courville, Kenneth C; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E; Frederici, Dave
Subject: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37
Importance: High

Good Morning

Attached for your review and comment is Revision 37 to EP-WCRR-WO-DOP-0233. This revision is to incorporate flexibility with the ratio of absorbent to Nitrate Salt in order to potentially reduce the number of POCs required. Please review the attached markup and provide your comments or concurrence as soon as possible. Even if you do not have any comments I still need a reply email stating your concurrence so that I can fully document the review process.

If you have any questions give me a yell, 7-8163. Thanks.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

<EP-WCRR-WO-DOP-0233 R37C.doc>

Smart, Ronald A

From: Jerez, Jose C
Sent: Monday, March 11, 2013 6:07 PM
To: Smart, Ronald A; lklavallee@energysolutions.com; Martinez, Gilbert D; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

Ron

After our conversation with John and you on the phone. I agree with the changes and have no further comments

Thank You
Jose

From: Smart, Ronald A
Sent: Monday, March 11, 2013 3:41 PM
To: lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

I have made some additional changes based on discussions with various individuals and wanted to send the latest draft for your consideration. The green text indicates the additional changes and includes adding neutralization step and the removal of the requirement to initiate an NCR for waste issues.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

From: Smart, Ronald A
Sent: Monday, March 11, 2013 5:48 AM
To: lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Courville, Kenneth C; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E; Frederici, Dave
Subject: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37
Importance: High

Good Morning

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If you have any questions give me a yell, 7-8163. Thanks.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163

Smart, Ronald A

From: Fernandez, Genevieve S
Sent: Tuesday, March 12, 2013 6:47 AM
To: Smart, Ronald A; lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E; Frederici, Dave
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

Ok.

From: Smart, Ronald A
Sent: Tuesday, March 12, 2013 4:47 AM
To: Fernandez, Genevieve S; lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E; Frederici, Dave
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

Ms Gen

A decision was made some time ago not to NCR waste issues only issues like non-compliant containers. The procedure does have you document any discrepancies in the Comments section of the applicable attachment and it is my understanding that the Solution Package process will track and generate a disposition path for any outlier waste containers.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

From: Fernandez, Genevieve S
Sent: Monday, March 11, 2013 5:05 PM
To: Smart, Ronald A; lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

Ron,

So If we ever run across a drum that there is just no way to process it, this procedure pretty much doesn't require us to NCR it?? So if we reject it till a later date no documentation to follow??
Other than this question no other comments.

Gen

From: Smart, Ronald A
Sent: Monday, March 11, 2013 3:41 PM
To: lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Bement, Rob; Guadagnoli, John F

Cc: Jalbert, Louis E
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

I have made some additional changes based on discussions with various individuals and wanted to send the latest draft for your consideration. The green text indicates the additional changes and includes adding neutralization step and the removal of the requirement to initiate an NCR for waste issues.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

From: Smart, Ronald A
Sent: Monday, March 11, 2013 5:48 AM
To: lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Courville, Kenneth C; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E; Frederici, Dave
Subject: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37
Importance: High

Good Morning

Attached for your review and comment is Revision 37 to EP-WCRR-WO-DOP-0233. This revision is to incorporate flexibility with the ratio of absorbent to Nitrate Salt in order to potentially reduce the number of POCs required. Please review the attached markup and provide your comments or concurrence as soon as possible. Even if you do not have any comments I still need a reply email stating your concurrence so that I can fully document the review process.

If you have any questions give me a yell, 7-8163. Thanks.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

Smart, Ronald A

From: Rhodes, Valerie A
Sent: Tuesday, March 12, 2013 4:05 PM
To: Smart, Ronald A
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

No further comments. val

From: Smart, Ronald A
Sent: Monday, March 11, 2013 3:41 PM
To: lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

I have made some additional changes based on discussions with various individuals and wanted to send the latest draft for your consideration. The green text indicates the additional changes and includes adding neutralization step and the removal of the requirement to initiate an NCR for waste issues.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

From: Smart, Ronald A
Sent: Monday, March 11, 2013 5:48 AM
To: lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Courville, Kenneth C; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E; Frederici, Dave
Subject: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37
Importance: High

Good Morning

Attached for your review and comment is Revision 37 to EP-WCRR-WO-DOP-0233. This revision is to incorporate flexibility with the ratio of absorbent to Nitrate Salt in order to potentially reduce the number of POCs required. Please review the attached markup and provide your comments or concurrence as soon as possible. Even if you do not have any comments I still need a reply email stating your concurrence so that I can fully document the review process.

If you have any questions give me a yell, 7-8163. Thanks.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

Smart, Ronald A

From: Trujillo, Robert A
Sent: Monday, March 11, 2013 4:56 PM
To: Smart, Ronald A
Subject: Re: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

I concur.

Thanks,
Robert

From: Smart, Ronald A
Sent: Monday, March 11, 2013 03:40 PM Mountain Standard Time
To: lklavallee@energysolutions.com <lklavallee@energysolutions.com>; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

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From: Smart, Ronald A
Sent: Monday, March 11, 2013 5:48 AM
To: lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Courville, Kenneth C; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E; Frederici, Dave
Subject: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37
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If you have any questions give me a yell, 7-8163. Thanks.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

Smart, Ronald A

From: Courville, Kenneth C
Sent: Tuesday, March 12, 2013 11:29 AM
To: Smart, Ronald A
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

Ron
I concur with the changes, but I still think 10.6.6 the way the step is worded is we are no longer adding absorbent to the waste material we are adding absorbent to try and reduce dose below WIPPs CH.

Ken

From: Smart, Ronald A
Sent: Tuesday, March 12, 2013 6:58 AM
To: Courville, Kenneth C
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

Mr. Ken

I have attempted to resolve you concerns on the attached copy of your comments and the new draft of EP-WCRR-WO-DOP-0233, R37. Let me know if you are OK with the proposed resolutions to your comments or if you have additional concerns. Thanks for the input.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

From: Courville, Kenneth C
Sent: Monday, March 11, 2013 8:05 AM
To: Smart, Ronald A; lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E; Frederici, Dave; Bliss, John L
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

Ron
I added comments to your procedure, which is attached above. The way the steps and notes are worded sounds like treatment and dilution to get dose rates below 190 mR/hr on contact.

Ken

From: Smart, Ronald A
Sent: Monday, March 11, 2013 5:48 AM
To: lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Courville, Kenneth C; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E; Frederici, Dave
Subject: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37
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If you have any questions give me a yell, 7-8163. Thanks.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

10.1 WCG Waste Processing Preparation (continued)

WARNING

Glass sample vials may contain residual granular plutonium hydride which can generate sparks when subjected to mechanical agitation. To reduce the possibility of breaking a glass sample vial and the generation of sparks glass sample vials SHALL be without excessive force. (EP-DIV-REPORT-09)

NOTE *Multiple sections may be performed and repeated in order to completely disposition all of the waste from a parent drum.*

[16] **PERFORM** the following applicable sub-section:

- Section 10.2, Waste Material Greater Than 190 mrem/hr
- Section 10.3, Prohibited Item Disposition
- Section 10.4, Waste Splitting Activities
- Section 10.5, Repackaging Activities
- Section 10.6, Processing Nitrate Salt Drums

10.2 Waste Material Greater Than 190 mrem/hr

The following sub-section provides instructions for the disposition of waste material with an expected radiation dose rate of greater than 190 mrem/hr on contact with the outside of a waste container. Simulating that the waste material is inside of a daughter waste container (e.g., measured through drum lid) is the desired method of determining the expected radiation dose rate of waste material outside of a waste container.

NOTE 1 *Appendix 5, Flowchart for Processing of High Dose Items of Mixed Material Types, illustrates the process for POC operations.*

NOTE 2 *Waste containers with Nitrate Salt and a radiation dose rate of greater than 190 mrem/hr are to be processed in accordance with Section 10.6, Processing Nitrate Salt Drums, before performing this section. An attempt to reduce the radiation dose rate to less than or equal to 190 mrem/hr by diluting the Nitrate Salt with absorbent should be attempted first. Nitrate Salt absorption reduces the quantity of POCs required to process the waste material.*

Comment [RAS1]: Changed "diluting" to "absorbing". According to EVN adding absorbent is not treatment as we are not trying to change the RCRA Codes associated with the waste container other than removing waste items such sa pressurized cans.

Comment [KC2]: I did not think WCRR was approved for treatment, nor WIPP approved diluting was below RH waste criteria? This should be reworded.

Waste Handling Technician

[1] **ENSURE** that a POC assembly has been prepared and is available.

10.3 Prohibited Item Disposition (continued)

[3] **IF** liquid is identified inside of a transparent or opaque containers (e.g., contents adequately labeled),
THEN:

[A] **RECORD** the approximate liquid volume on Attachment 1.

[B] **OPEN** the containers.

[C] **PERFORM** a pH test of the liquid using Litmus Paper.
- Acid (less than 7)
- Caustic (base – greater than 7)

[D] **OBTAIN** the appropriate absorbing agent, and **PLACE** the absorbent into a compatible container (e.g., bottle or bag) that has a volume of less than 4 Liters.

Comment [KC3]: Shouldn't this be "neutralizing agent" ?

Comment [RAS4]: Added step to neutralize the liquid.

NOTE *Multiple containers of less than 4 liters may be required in order to absorb all of the free liquid.*

[E] **TRANSFER** the liquid into the compatible container (e.g., bottle or bag), and **PLACE** the container (e.g., bottle or bag) inside of the daughter drum.

NOTE *Waste containers with liquids (any amount or configuration) that have not been solidified (absorbed) must be managed on secondary containment pallets and have a FREE LIQUID label affixed.*

[4] **IF** liquid is identified in transparent containers or in opaque containers that **CANNOT** be safely opened (e.g., contents adequately labeled),
THEN:

[A] **PLACE** the containers into the daughter drum.

NOTE *The NCR may be initiated at a time that is operationally convenient.*

[B] **ENSURE** that an NCR is initiated in accordance with P330-6.

10.3 Prohibited Item Disposition (continued)

[C] **NOTIFY** the WCRRF Operations Center of the discrepancy, and **DOCUMENT** in the Comments section of Attachment 1.

NOTE *Liquids are not to be combined or bulked.*

[5] **IF** any free liquid is identified,
THEN:

[A] **DETERMINE** the approximate volume of liquid, and **DOCUMENT** the approximate amount of liquid on Attachment 1.

[B] **PERFORM** a pH test on the liquid using Litmus Paper.

[C] **OBTAIN** the appropriate absorbing agent, and **PLACE** the absorbent in a compatible container (e.g., bottle or bag) that has a volume of less than 4 Liters.

Comment [KC5]: Shouldn't this be "neutralizing agent" ?

Comment [RAS6]: Added step to neutralize the liquid.

[D] **ADD** a small amount of the free liquid to the container (e.g., bottle or bag).

[E] **IF** any reaction occurs between the absorbent and the free liquid,
THEN:

[a] **STOP** the addition work activities.

[b] **NOTIFY** the WCRRF Operations Center of the condition, and **REQUEST** the applicable actions.

[c] **DOCUMENT** the notifications and actions in the Comments section of Attachment 1.

NOTE *The NCR may be initiated at a time that is operationally convenient.*

[d] **ENSURE** that an NCR is initiated in accordance with P330-6.

10.6 Processing Nitrate Salt Drums

The following sub-section provides ~~additional~~ instructions for the disposition of Nitrate Salt drums that require the waste material to be mixed with absorbent material. Unless otherwise directed by supervision the minimum ratio of absorbent to Nitrate Salt is 3-parts absorbent to 1-part Nitrate Salt. ~~at a ratio of a minimum of 1.5 absorbent to 1 part nitrate salt.~~

[1] **REMOVE** the waste items from the parent drum.

[2] **DOCUMENT** any waste items from the parent drum added to the daughter drum during the waste processing ~~from the parent drum~~ on Attachment 1.

[3] **ENSURE** that an organic absorbent (Kitty Litter/Zeolite® absorbent) is added to the waste material at a minimum ratio of ~~1.5~~ 3-parts absorbent to 1-part waste or at a ratio as directed by supervision.

[4] **ENSURE** absorbent (Kitty Litter/Zeolite® absorbent) is thoroughly mixed with the Nitrate Salt material.

[5] **IF** the measured radiation level of the absorbent/Nitrate Salt mixture is greater than 190 mrem/hr,
AND multiple attempts to reduce the radiation level by splitting the absorbent/Nitrate Salt mixture have been attempted or directed by supervision,
THEN GO to Section 10.2, Waste Material Greater Than 190 mrem/hr.

[6] **IF** the measured radiation level of the absorbent/Nitrate Salt mixture is greater than 190 mrem/hr,
THEN:

[A] **SPLIT** the absorbent/Nitrate Salt mixture.

[B] **REPEAT** Steps 10.6[3] through 10.6[5] for each portion of the absorbent/Nitrate Salt mixture.

Comment [RAS7]: Adding absorbent is not considered treatment.

Comment [KC8]: This step seems like treatment, which WCRR is not approved for.

[7] **PLACE** process waste into daughter drum.

[8] **REPEAT** Steps 10.6[1] through 10.6[7] for all Nitrate Salt processing.

[9] **REMEDIATE** the contents of the parent drum for other items as applicable.

10.6 Processing Nitrate Salt Drums (continued)

NOTE *Absorbent waste containers that are categorized, as Nitrate Salts will generate additional daughter drums due to the amount of absorbent required to solidify the waste.*

Comment [KC9]: Here you are stating that the absorbent is needed to solidify waste, but step 10.6.6 to 10.6.8 are stating it is treatment for dose rates?

Comment [RAS10]: The primary purpose of the absorbent is to solidify the liquid and a byproduct of the liquid solidification is to reduce the radiation dose rate of the final product.

[10] **DETERMINE** the level of waste placed into the daughter drums, and **RECORD** the Daughter Drum % Full value (%) on Attachment 1.

[11] **BAG OFF** the parent and daughter drums from the WCG in accordance with Section 7.2, Parent Drum Bag Off; and Section 8.2, Bag Off Daughter Drum.

[12] **CLOSE** the daughter drum in accordance with EP-WCRR-WO-DOP-0221, Preparing and Closing 55-Gallon Daughter Drum Assemblies.

Smart, Ronald A

From: Bement, Rob
Sent: Wednesday, March 13, 2013 10:45 AM
To: Smart, Ronald A
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

Hey, Ron:

I have no comments on the DOP changes.

Rob

From: Smart, Ronald A
Sent: Monday, March 11, 2013 5:48 AM
To: lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Courville, Kenneth C; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E; Frederici, Dave
Subject: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37
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If you have any questions give me a yell, 7-8163. Thanks.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

Smart, Ronald A

From: Guadagnoli, John F
Sent: Monday, March 11, 2013 4:41 PM
To: Smart, Ronald A; lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Bement, Rob
Cc: Jalbert, Louis E
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

Ron,
Upon review, I agree with the changes
John Guadagnoli (SSW at WCRRF)

From: Smart, Ronald A
Sent: Monday, March 11, 2013 3:41 PM
To: lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Bement, Rob; Guadagnoli, John F
Cc: Jalbert, Louis E
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

I have made some additional changes based on discussions with various individuals and wanted to send the latest draft for your consideration. The green text indicates the additional changes and includes adding neutralization step and the removal of the requirement to initiate an NCR for waste issues.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

From: Smart, Ronald A
Sent: Monday, March 11, 2013 5:48 AM
To: lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Courville, Kenneth C; Bement, Rob; Guadagnoli, John F
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If you have any questions give me a yell, 7-8163. Thanks.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

Hbtm

Smart, Ronald A

From: English, Liz
Sent: Monday, March 11, 2013 4:25 PM
To: Smart, Ronald A
Subject: RE: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37

Ron-

If I understand the procedure, the addition of absorbent to nitrate salts is performed in a daughter drum. If performed in a daughter drum, it is not considered RCRA treatment. If absorbent is being added to a parent drum, however, it would be considered RCRA treatment, and not allowed under LANL's permit.

I hope this answers your question. BTW, your land line rang and rang but did not go to voice mail....

Liz English
EWMO Environmental
Los Alamos National Laboratory
(505) 667-1925 (office)
(505) 695-8215 (BlackBerry)

From: Smart, Ronald A
Sent: Monday, March 11, 2013 8:27 AM
To: English, Liz
Subject: FW: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37
Importance: High

Ms Liz

Could you take a look at the attached markup for the WCRRF remediation procedure. The question is whether adding more Absorbent to cut the Nitrate Salts is considered treatment.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

From: Smart, Ronald A
Sent: Monday, March 11, 2013 5:48 AM
To: lklavallee@energysolutions.com; Martinez, Gilbert D; Jerez, Jose C; Fernandez, Genevieve S; Axtell, Randy; Rhodes, Valerie A; Trujillo, Robert A; Courville, Kenneth C; Bement, Rob; Guadagnoli, John F
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Subject: ACTION REQIURED: review and comment for EP-WCRR-WO-DOP-0233, R37
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If you have any questions give me a yell, 7-8163. Thanks.

Thanks

Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

Smart, Ronald A

From: Fernandez, Genevieve S
Sent: Friday, March 08, 2013 4:00 PM
To: Smart, Ronald A
Cc: Jalbert, Louis E; Frederici, Dave
Subject: RE: EP-WCRR-WO-DOP-0233 WCG Operations (EP-WCRR-WO-DOP-0233, R37 Draft A)

Ron- Per our discussion please remove the word dilution and add the word absorption.
Other than that please send it out for review.

Thanks
Gen

From: Smart, Ronald A
Sent: Friday, March 08, 2013 9:51 AM
To: Fernandez, Genevieve S
Cc: Jalbert, Louis E; Frederici, Dave
Subject: RE: EP-WCRR-WO-DOP-0233 WCG Operations (EP-WCRR-WO-DOP-0233, R37 Draft A)

Ms Gen

Here is an attempt to accomplish what you want for the Nitrate Salts. I used a NOTE in front of Section 10.2 because you could just use a POC and not dilute the Nitrate Salt, it is just that the dilution is preferred in order to reduce the number of POCs used.

Let me know if you are OK with this draft or if you have concerns. Thanks.

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

From: Fernandez, Genevieve S
Sent: Friday, March 08, 2013 7:40 AM
To: Smart, Ronald A
Subject: EP-WCRR-WO-DOP-0233 WCG Operations

Ron,

I would like to meet with you on some changes that I need done to WO-DOO-0233 WCG Operations procedure, but first I wanted to give you a little history on why the changes....
Back in late 2011/ early 2012 WCRRF started to work drums from SP# 72 which consisted of salts and liquids. Well after working a few of these drums in was determined by management that we would take a break from them due to all the POC's we were initiating and also because of the frozen liquids. Later on in 2012 it was decided that WCRRF would start re-working the daughter of these drums but that more absorbant needed to be added (2:1 ratio of absorbant). Well this was done and the success was good. The daughter drums that once were POC's turned into regular 55 gallon daughters verses POC's saving the group thousdands of dollars.

As we move forward today to continue with additional 55 gallon parents from SP#72 management has asked how we can illiminate the re-works and the usage of POC's. So what we would like to try out is adding at least a 3:1 ratio of absorbant and in addition we would like to split the material when we come across a package or item that is greater would like to add these steps to a section of the procedure that states when dealing with salts do this .....

Would you like to meet with these changes or do you want to add the above then meet for a draft?? Let me know what works for you. We would like to have an approved procedure by no later than the end of next week.

Thanks
Gen

WCRRF Waste Characterization Glovebox Operations

DRAFT A (03/08/13)

Effective Date: _____

NOTE *This procedure may be either a Moderate or High/Complex Hazard activity based on the anticipated radiation levels during the performance of the activity in accordance with P300 requirements.*

Hazard Class:	☐ Low	☒ Moderate	☒ High/Complex
Usage Mode:	☐ Reference	☐ UET	☒ Both UET & Reference

The Responsible Manager has determined that the following organizations' review/concurrence is required for the initial document and for major revisions a same type and level review is required. Review documentation is contained in the Document History File:

TRU Waste Project Support
Engineering
Quality Assurance
Radiation Protection
Industrial Hygiene and Safety
Subject-Matter Expert
Environmental Stewardship
Operations Support
Shift Operations Manager

Responsible Manager, LTP-DDP Operations Manager

Lou Jalbert	/ 121997	/	/
Name (print)	Z#	Signature	Date

Classification Review: ☐ N/A ☐ Unclassified ☐ UCNI ☐ Classified _____

	/	/	/
Name (print)	Z#	Signature	Date

Working Copy / Information Only (circle one)
Initials / Date: _____/_____

This document fully satisfies the requirements of P300, Integrated Work Management, in order to systematically describe the work activity, the associated hazards, and the controls that **MUST** be employed to mitigate the risks.

HISTORY OF REVISIONS (continued)

Document Number	Issue Date	Action	Description
EP-WCRR-WO-DOP-0233, R.35	July 2, 2012	Major Revision	Revised to separate verification steps from actual steps in Section 10.1 [10][D] and 10.1[10][E], 10.1[11][C], and reword Step 10.1[11][O] to read If directed by Supervision as a pre condition and Attachment 4 & 5 . Added steps for instructions for Administrative Lock Log, key, and lock Section 10. Added Steps to Section 4.1, 6.2, and 7.1 for using the Trolley Clamp Device. No additional hazards were identified during this revision. Rev bars in left column display locations of changes to the procedure.
EP-WCRR-WO-DOP-0233, R.36	August 1, 2012	Major Revision	Revised procedure to incorporate EP-SO-1708, and add steps to clarify the amount of absorbent needed when processing Nitrate Salts. Also added Appendix 6 Administrative Control Lock Log Sheet. No additional hazards were identified during this revision. Revision bars in the left column display location of changes in the procedure.
EP-WCRR-WO-DOP-0233, R.37	March ??, 2013	Major Revision	Revise procedure to allow flexibility with the processing of Nitrate Salts in order to permit flexibility with the amount of absorbent used. Make editorial corrections as necessary. No additional hazards were identified during this revision.

10.1 WCG Waste Processing Preparation (continued)

WARNING

Glass sample vials may contain residual granular plutonium hydride which can generate sparks when subjected to mechanical agitation. To reduce the possibility of breaking a glass sample vial and the generation of sparks glass sample vials SHALL be without excessive force. (EP-DIV-REPORT-09)

NOTE *Multiple sections may be performed and repeated in order to completely disposition all of the waste from a parent drum.*

[16] **PERFORM** the following applicable sub-section:

- Section 10.2, Waste Material Greater Than 190 mrem/hr
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- Section 10.5, Repackaging Activities
- Section 10.6, Processing Nitrate Salt Drums

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NOTE 1 *Appendix 5, Flowchart for Processing of High Dose Items of Mixed Material Types, illustrates the process for POC operations.*

NOTE 2 *Waste containers with Nitrate Salt and a radiation dose rate of greater than 190 mrem/hr are to be processed in accordance with Section 10.6, Processing Nitrate Salt Drums, before performing this section. An attempt to reduce the radiation dose rate to less than or equal to 190 mrem/hr by diluting the Nitrate Salt with absorbent should be attempted first. Nitrate Salt absorption reduces the quantity of POCs required to process the waste material.*

Waste Handling Technician

[1] **ENSURE** that a POC assembly has been prepared and is available.

10.6 Processing Nitrate Salt Drums

The following sub-section provides ~~additional~~ instructions for the disposition of Nitrate Salt drums that require the waste material to be mixed with absorbent material. Unless otherwise directed by supervision the minimum ratio of absorbent to Nitrate Salt is 3-parts absorbent to 1-part Nitrate Salt. ~~at a ratio of a minimum of 1.5 absorbent to 1 part nitrate salt.~~

[1] **REMOVE** the waste items from the parent drum.

[2] **DOCUMENT** any waste items from the parent drum added to the daughter drum during the waste processing ~~from the parent drum~~ on Attachment 1.

[3] **ENSURE** that an organic absorbent (Kitty Litter/Zeolite® absorbent) is added to the waste material at a minimum ratio of ~~1.5~~ 3-parts absorbent to 1-part waste or at a ratio as directed by supervision.

[4] **ENSURE** absorbent (Kitty Litter/Zeolite® absorbent) is thoroughly mixed with the Nitrate Salt material.

[5] **IF** the measured radiation level of the absorbent/Nitrate Salt mixture is greater than 190 mrem/hr,
AND multiple attempts to reduce the radiation level by splitting the absorbent/Nitrate Salt mixture have been attempted or directed by supervision,
THEN GO to Section 10.2, Waste Material Greater Than 190 mrem/hr.

[6] **IF** the measured radiation level of the absorbent/Nitrate Salt mixture is greater than 190 mrem/hr,
THEN:

[A] **SPLIT** the absorbent/Nitrate Salt mixture.

[B] **REPEAT** Steps 10.6[3] through 10.6[5] for each portion of the absorbent/Nitrate Salt mixture.

[7] **PLACE** process waste into daughter drum.

[8] **REPEAT** Steps 10.6[1] through 10.6[7] for all Nitrate Salt processing.

[9] **REMEDIATE** the contents of the parent drum for other items as applicable.

10.6 Processing Nitrate Salt Drums (continued)

NOTE *Absorbent waste containers that are categorized, as Nitrate Salts will generate additional daughter drums due to the amount of absorbent required to solidify the waste.*

[10] **DETERMINE** the level of waste placed into the daughter drums, and **RECORD** the Daughter Drum % Full value (%) on Attachment 1.

[11] **BAG OFF** the parent and daughter drums from the WCG in accordance with Section 7.2, Parent Drum Bag Off; and Section 8.2, Bag Off Daughter Drum.

[12] **CLOSE** the daughter drum in accordance with EP-WCRR-WO-DOP-0221, Preparing and Closing 55-Gallon Daughter Drum Assemblies.

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: _____

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.				
10.1[4]	Daughter Drum Filter No.				
10.1[4]	Daughter Drum Bag Filter No.				
10.1[4]	Daughter Drum Purchase Order No.				
10.1[13][C]	WCG Fire Watch Stationed	☐ YES		☐ NO	☐ N/A
10.1[14][C][d]3/11.1[3]	WCG Fire Watch Secured	☐ YES		☐ NO	☐ N/A
10.2[4]	POC bag-on bag: Manufacturer				
	Model No.				
	Serial No.				
	Date of Manufacture				
10.2[5]	POC ID No				
10.2[7][B]/10.2[6]	POC Item Description				
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)				
10.2[14]	POC Assembly Gross Weight (lb)				
10.2[15]	POC Rad. Survey Results (mrem/hr)				
10.3[3][A]	Approx. Containerized Liquid Vol./Units				
10.3[5][A]	Free Liquid Volume/Units				
10.3[7][A]	Opaque/Non-penetrable Item Description:				
10.3[9][A]	PCB-contaminated Waste Description				
10.3[9][B]	PCB Item ID No.				
10.3[10]	Remaining Waste Description				
10.3[13]/10.4[10]/ 10.5[4]/10.6[10]	Daughter Drum % Full (%)				
10.5[3]/10.6[2]	Description Waste Added During Processing				

Sanchez, Victoria M

From: owner-ep-doccontrol@maillist.lanl.gov on behalf of Smart, Ronald A [rsmart@lanl.gov]
Sent: Tuesday, March 19, 2013 7:27 AM
To: ep-doccontrol@lanl.gov
Subject: ACTION REQIURED: posting of EP-WCRR-WO-DOP-0233, Revision 37 (effective 03/20/13)
Attachments: EP-WCRR-WO-DOP-0233 R37 final.doc; EP-WCRR-WO-DOP-0233 R37 final.pdf

Attached is EP-WCRR-WO-DOP-0233, Revision 37 for posting on SharePoint. This revision is effective tomorrow (03/20/13) with a review date of 03/20/16. Thanks

Thanks
Ron Smart
LTP Technical Writer, Schedule B
505.667.8163
rsmart@lanl.gov

Sanchez, Victoria M

From: owner-wdp-whiterock@maillist.lanl.gov on behalf of ep-doccontrol@lanl.gov
Sent: Wednesday, March 20, 2013 10:42 AM
To: wdp_sdl@lanl.gov
Subject: Revised Document: EP-WCRR-WO-DOP-0233, R. 37

ADEP Sharepoint

Document Control Notification

The revised document is located in the ADEP Document Control System at:

http://adep.lanl.gov/epdc/default.aspx

The direct link to the document is as follows:

EP-WCRR-WO-DOP-0233, R.37 - WCRRF WASTE CHARACTERIZATION GLOVEBOX OPERATIONS

https://adep.lanl.gov/epdc/EPDCS/EP-WCRR-WO-DOP-0233.pdf

When a document applies to your job function, please take the time to read it. You are responsible for verifying that you are working to the most current revision of a document.
If you have any questions regarding this notification, please e-mail ep-doccontrol@lanl.gov

Thank You.