

FW: Shielded container procedure

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Sent: Thursday, May 02, 2013 9:24 AM

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Attachments: CCP-TP-081-REV1-CCP-Shield~1.pdf (162 KB)



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Sent: Wednesday, May 01, 2013 5:54 PM

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Subject: Shielded container procedure

Trais,

Attached please find the loading of the shielded container that will be demonstrated June 11-13, 2013 at the Argonne National Laboratory.

Please let me know if I can be of further assistance.

Than you,

Irene Joo

RH PM

Nuclear Waste Partnership

Contractor to the Department of Energy

720-982-7174



CCP-TP-081

Revision 1

CCP Shielded Container Assembly Loading

EFFECTIVE DATE: 04/16/2013

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	02/07/2013	Initial issue.
1	04/16/2013	Revised to work in conjunction with DOE/WIPP 02-3184, <i>CH Packaging Operations Manual</i> , when preparing Shielded Container Assembly payloads for loading into a HalfPACT.

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1.0 PURPOSE

This procedure provides technical requirements and instructions for loading 30-gallon vented payload drums into the Shielded Container Assembly (SCA) for shipment in the HalfPACT shipping packaging for the Central Characterization Program (CCP).

This procedure shall be used when shipping SCAs from any waste generating site within the DOE complex to ensure radiation contact dose rate measurements are standardized in terms of geometry and protocol and remain consistent among the various waste generating sites. "Contact dose rate" measurements are taken with the detection instrument in direct contact with the surface of the SCA. While radiological surveys may be performed in accordance with site-specific procedures, contact dose rate measurements for both gamma and neutron radiation shall be performed in accordance with Section 4.5 of this procedure.

1.1 Scope

This procedure implements the requirements of Waste Isolation Pilot Plant (WIPP) Procedure SCA-MAN-0001, *Shielded Container Assembly Handling and Operation Manual*.

2.0 REQUIREMENTS

2.1 References

Baseline Documents

- Title 40 *Code of Federal Regulations* (CFR), *Protection of Environment*, Part 262, *Standards Applicable to Generators of Hazardous Waste*
- Title 40 CFR Part 262 § 262.31, *Labeling*
- Title 40 CFR Part 262 § 262.32, *Marking*
- Title 40 CFR Part 761, *Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and use Prohibitions; § 761.40 Marking of PCB's and PCB Items*
- Title 49 CFR, *Transportation*, Part 172, *Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements*, Subpart D, *Marking* § 172.300 through 172.338

- Title 49 CFR, Part 172, Subpart E, *Labeling* § 172.400 through 172.450
- *Title 49 CFR 173.474, Quality Control for Construction of Packaging*
- *Title 49 CFR 178.3, Marking of Packagings*
- *Title 49 CFR 178.350, Specification 7A; General Packaging, Type A*
- *SCA-REP-0001, Shielded Container Assembly Type A Evaluation Report*
- *CCP-PO-002, CCP Transuranic Waste Certification Plan*
- *CCP-PO-003, CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
- *CCP-TP-033, CCP Shipping of CH TRU Waste*
- *DOE/WIPP 02-3183, CH Packaging Program Guidance*
- *NRC Docket 71-9279, Certificate of Compliance for Model Number HalfPACT Package*
- *Safety Analysis Report for the HalfPACT Shipping Package*
- *SAR Drawing 163-008, Shielded Container*
- *DOE/WIPP 02-3122, Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*
- *CH-TRU Payload Appendices*
- *DOE/WIPP 01-3194, CH-TRU Waste Content Codes (CH-TRUCON)*
- *SCA-QGR-0001, Q-List and Quality Control Assessments for the Shielded Container Assembly*
- *DOE/WIPP 02-3184, CH Packaging Operations Manual*

Referenced Documents

- Title 10 CFR, *Energy*, Chapter III, *Department of Energy*, Part 835, *Occupational Radiation Protection Appendix D*
- Title 40 CFR § 761.40 (*Subpart C-Marking of PCBs and PCB Items*)
- CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
- CCP-QP-002, *CCP Training and Qualification Plan*
- CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*
- CCP-QP-008, *CCP Records Management*
- SCA-MAN-0001, *Shielded Container Assembly Handling and Operation Manual.*
- DOE/WIPP 11-3384, *CBFO Approved Filter Vents*

2.2 Training Requirements

2.2.1 CCP Personnel performing this procedure will be trained and qualified in accordance with CCP-QP-002, *CCP Training and Qualification Plan*, prior to performing this procedure.

2.3 Equipment List

- 3/4-inch socket (for closure bolts)
- 6 or 12 point socket (appropriate size for filter vent installation)
- Ratchet Drive Wrench
- Calibrated torque wrenches
- SCA Lift Assembly (Nuclear Waste Partnership [NWP] Drawing 163-L-024)
- 1/2-13 UNC tap
- RH-TRU Drum Handling Slings/Bags, or suitable rigging (one per SCA)

NOTE

For sealing the threads of the filter vent, a thread sealant tape or compound is recommended. However, a liquid anaerobic thread sealant is acceptable.

2.4 Recommended Supplies

- Denatured or isopropyl Alcohol
- General purpose adhesive remover (e.g., 50/50 Naptha and Xylene)
- Multipurpose spray adhesive (e.g, 3M™ Super 77)
- Touch-up paint (e.g., aerosol enamel, white)
- Thread lubricant
- Soft lint-free cloths

2.5 Recommended Spare Parts (Available from Seller, referenced drawing SCA-DWG-0001)

- Flange hex head cap screws (1/2-13UNC x 1-1/2 in. long)
- Lid seals (silicone sponge)
- Protective plugs (1/2 and 3/4 pipe)
- Filter vents

2.6 Precautions and Limitations

2.6.1 Removable surface contamination on the outer surfaces of the SCA shall **NOT** exceed the values in Title 10 CFR, *Energy*, Chapter III, *Department of Energy*, Part 835, *Occupational Radiation Protection Appendix D* (20 disintegrations per minute [dpm]/100 square centimeters [cm^2] alpha, 200 dpm/100 cm^2 beta/gamma).

2.6.2 The SCA has an approximate empty weight of 1,726 pounds (lb.), and is designed for a maximum gross shipping weight of 2,260 lb. The maximum content weight is 450 lb.

2.6.3 Prior to constructing the SCA assembly in DOE/WIPP-02-3184, each SCA shall be surveyed individually. Instructions for this radiological survey are provided in Section 4.5.

2.6.4 The Transportation Certification Official (TCO) shall be notified if any of the following radiological survey criteria are exceeded:

[A] Radiation contact dose rates exceed 200 millirem per hour (mrem/hr) at contact (beta+gamma+neutron).

[B] Alpha contamination survey results exceed 20 dpm/100 cm^2 .

[C] Beta/gamma contamination survey results exceed 200 dpm/100 cm^2 .

2.6.5 The SCA shall not be used to store, contain, or transport contents other than the contents for which the packaging was designed.

2.6.6 SCAs should be stored indoors whenever possible. If outdoor storage is unavoidable, then the SCAs should be covered and stored on blocks to prevent corrosion and the ingress of water. In addition, the filter vent port shall be vented in a way which precludes the ingress of water and debris.

- 2.6.7 Observers shall be kept at a safe distance from the SCA while it is being lifted or moved.
 - 2.6.8 Structural modifications shall not be made to the SCA.
 - 2.6.9 If hardware replacement is required, replacement hardware shall meet the requirements of the assembly/manufacturing drawing.
 - 2.6.10 Use only recommended solvents and adhesives, or as approved by the Packaging Engineer. Ensure the products are site approved. Follow product manufacturer's health and safety guidelines for the use of their product, as well as site-specific health and safety guidelines.
 - 2.6.11 The SCA shall be equipped with one user-supplied filter vent in accordance with Section 2.5 of CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*.
 - 2.6.12 The SCA is not designed to interface with a forklift, and should only be lifted or transported by forklift when on a shipping pallet.
 - 2.6.13 The SCA is designed to be lifted only with the SCA Lift Assembly, including when removing the SCA from the shipping pallet.
- 2.7 Prerequisites Actions
- 2.7.1 Verify equipment pre-operational inspections have been completed using site-specific procedures.

3.0 RESPONSIBILITIES

3.1 Host Site Supervisor

- 3.1.1 Supervises preparation of the loading area by Host site personnel.
- 3.1.2 Coordinates loading activities.

3.2 Shielded Container Assembly SCA Loading Operator

- 3.2.1 Prepares the SCA for loading.
- 3.2.2 Loads the SCA per Waste Certification Official (WCO) loading instructions.
- 3.2.3 Completes and signs Attachment 1.

3.3 Radiological Control

- 3.3.1 Performs radiation and contamination surveys of loaded SCA.
- 3.3.2 Provides completed Radiological Survey Reports to TCO.

3.4 Peer Verifier

- 3.4.1 Verifies containers to be loaded into SCA match the container numbers listed on Attachment 1.
- 3.4.2 Reviews and signs Attachment 1.

3.5 Transportation Certification Official (TCO)

- 3.5.1 Interfaces with Host site personnel when listed radiation/contamination values are exceeded.
- 3.5.2 Interfaces with Host site personnel when container integrity issues arise.
- 3.5.3 Assists in NCR generation/resolution from issues arising from packaging issues.
- 3.5.4 Reviews and signs Attachment 1, Shielded Container Assembly Loading Form.
- 3.5.5 Reviews and signs Attachment 2, Shielded Container Assembly Contact Dose Rate Survey.

3.6 Waste Certification Official (WCO)

3.6.1 Selects waste containers for SCA.

3.6.2 Provides Host site personnel with loading instructions for SCA.

3.6.3 Assists in disposition of NCRs.

4.0 PROCEDURE

SCA Loading Operator

4.1 Preparing Shielded Container Assembly for Loading

NOTE

New SCAs shall be shipped from the fabricator assembled on a shipping pallet with six (6) of the closure bolts installed wrench-tight in the lid, one on either side of the three lift interface points on the lid. The balance of the closure bolts and the seal are bagged separately and shipped inside the SCA.

NOTE

Labels may be installed at any time prior to Step 4.2.

NOTE

During inspections, if damage, distortion, or corrosion is found that could compromise the confinement or shielding, then the supervisor/TCO will be contacted, and a NCR will be generated in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*.

4.1.1 Initial Inspection

- [A] Obtain SCA Loading Instructions from WCO.
 - [B] Verify absence of a HOLD TAG.
 - [C] Inspect all accessible exterior surfaces of the SCA for damage.
 - [D] Record SCA ID on Attachment 1 (from WCO Loading Instruction).
 - [E] Verify the SCA Lid and Body Serial Numbers match, AND record the SCA Serial Number on Attachment 1.
-

NOTE

The SCA is designed to be lifted only with the SCA Lift Assembly, including when removing the SCA from the shipping pallet.

- [F] Remove the protective plugs from each of the three lifting point threaded holes on the SCA lid, and inspect the condition of the threads. If any threads have minor deformation or discontinuity, correct the condition by using a ½-13UNC-2B bottoming tap, or plug tap to a minimum depth of ¾-inch.

- [G] Verify six of the closure bolts are installed wrench-tight in the lid, one on either side of the three lift interface points on the lid.

CAUTION

Abrupt stops or starts while lowering the SCA or Lid **MUST** be avoided to prevent damage to the SCA, Lid or Lift Assembly.

- [H] Attach the SCA Lift Assembly to the lid by inserting each of the three lift studs into each of the threaded lift interface points on the SCA lid.
- [I] Rotate each lift stud handle in the clockwise direction until hand-tight.
- [J] Attach the crane hook **OR** suitable rigging to the SCA Lift Assembly.
- [K] Lift the SCA and place it on the SCA Survey Stand.
- [L] Inspect the bottom of the SCA after it is positioned on the SCA Survey Stand.
- [M] If needed, remove the crane/rigging from the SCA Lift Assembly.

4.1.2 Lid Removal

- [A] Remove the six remaining closure bolts from the lid, and store in a manner that will preclude damage or loss.
- [B] Ensure the crane/rigging is attached to the SCA Lift Assembly.

CAUTION

Pinch points are present between lid and body. In order to avoid injury, hands and fingers must be kept clear of these areas.

- [C] Raise the crane to lift the SCA lid straight up from the SCA body.
- [D] Store the lid in a manner that will preclude damage to the lid and allow for maintenance and inspection.

- [E] If needed, remove the crane/rigging from the SCA Lift Assembly.
- [F] If required by the site, survey the interior of the SCA per site specific procedures.

4.1.3 Maintenance and Inspection of SCA

- [A] Ensure all assembly components are present:
 - [A.1] Body assembly (1 each)
 - [A.2] Lid assembly (1 each)
 - [A.3] Seal (1 each)
 - [A.4] Closure bolts (15 each)
 - [A.5] Protective plugs for lifting points (3 each)
 - [A.6] Protective plug for vent port
- [B] The SCA has been assembled with the seal installed on the lid. Replace it with a new seal if the seal is damaged or shows signs deformation or deterioration. Refer to Attachment 3.
- [C] Inspect the threads in each of the 15 closure bolt holes in the body flange. If any threads have minor deformation or discontinuity (foreign material, burrs, cross thread, weld spatter, etc.), the user may correct the condition by using a ½-13 UNC-2B bottoming tap, or plug tap to a minimum depth of ¾-inch.
- [D] Inspect all interior and exterior surfaces of the SCA for signs of damage, distortion, or corrosion. If such conditions exist to the extent that confinement or shielding could be compromised, tag or label the unit as unusable and segregate away from conforming units.
- [E] Ensure that the SCA interior is dry and no moisture (free standing liquid) is present.

4.1.4 Filter Vent Installation

NOTE

The SCA shall be equipped with one user-supplied filter vent per DOE/WIPP 11-3384, *CBFO Approved Filter Vents*, in accordance with Section 2.5 of CCP-PO-003.

NOTE

The approved filter vent for use in a SCA, is the Ultra Tech 9400.

- [A] Ensure protective cap is removed from filter vent port.
- [B] Install the filter vent per the following:
 - [B.1] Record Filter Vent Type Number, Filter Vent Serial Number, and Filter Vent Installation Date on Attachment 1.
 - [B.2] Apply a generous amount of pipe thread sealant compound or sealant tape to the threads of the filter vent to be installed.
 - [B.3] Install filter vent into the threaded port and torque to 21 in-lb.
 - [B.4] Remove all excess sealant from the exterior of the SCA.
 - [B.5] Record Torque Wrench Serial Number and Calibration Due Date on Attachment 1.
- [C] **WHEN** maintenance and inspections are completed satisfactorily,
THEN print name, sign and date Attachment 1.

4.2 Marking and Labeling

NOTE

Each SCA shall be labeled with a unique identification (ID) number that includes a site identifier as a prefix.

- [A] Ensure the following labels are clearly marked on each SCA:
 - [A.1] A minimum of three SCA ID numbers shall be placed at approximately equal intervals around the

circumference of the SCA and approximate center of the SCA.

- [A.2] Unique Identification Number (Barcode), minimum of three.
- [A.3] Caution Radioactive Material label.
- [A.4] When applicable, Hazardous Waste and U.S. Environmental Protection Agency (EPA) Hazardous Waste Number(s) label.
- [A.5] When applicable, Polychlorinated Biphenyl (PCB) label in accordance with 40 CFR § 761.40 (*Subpart C-Marking of PCBs and PCB Items*).

4.3 Payload Loading/Handling

NOTE

The 30-gallon payload drum shall be loaded, closed, and vented in accordance with site operating procedures.

NOTE

The use of RH-TRU drum handling slings or bags, or suitable rigging shall be used to facilitate loading operations, and are an approved payload item.

NOTE

A 30-gallon waste drum with a bolted closure ring will not fit into the SCA. An internal lever-lock closure ring is required on the 30-gallon waste drum.

4.4 Loading 30-Gallon Drums

- [A] Verify drum is equipped with an internal lever-lock closure ring. If the drum is not equipped with an internal lever-lock closure ring, notify TCO and WCO.
- [B] Verify that the waste drum is vented.
- [C] Record Container ID number of drum that is to be loaded into the SCA on Attachment 1.
- [D] Verify Container ID Number of drum to be loaded into SCA match number on Attachment 1, **AND** initial Attachment 1.

Peer Verifier

- [E] Verify Container ID Number of drum to be loaded into SCA matches number on Attachment 1, **AND** initial Attachment 1.

SCA Loading Operator

- [F] Place specified 30-gallon drum in SCA using RH-TRU drum handling sling or bag, or suitable rigging as applicable.

Peer Verifier

- [G] Print name, sign, and date Attachment 1.

4.5 SCA Closure

SCA Loading Operator

CAUTION

Pinch points are present between lid and body flange. In order to avoid injury, hands and fingers must be kept clear of these areas.

NOTE

The SCA is designed with two alignment pins installed in the lid, with corresponding alignment marks on the lid and body. Corresponding alignment marks are identified on the lid and body such that the lid can be installed in one orientation only.

- [A] Ensure the SCA Lift Assembly and crane/rigging is attached to the lid.
- [B] Lift the SCA lid and position the lid above the SCA body.
- [C] Begin lowering while positioning the lid so that the alignment marks on the lid line up with the alignment marks on the body.
- [D] Lower the lid onto the SCA body while maintaining alignment of the marks, until lid is fully seated on the body.
- [E] If needed, remove the crane/rigging from the SCA Lift Assembly.
- [F] Apply thread lubricating compound to the SCA closure bolts.

- [G] Install each of the 15 closure bolts in the lid, and tighten until wrench-tight.
- [H] Using a calibrated torque wrench, torque the closure bolts to 85 ± 10 ft-lb.
- [I] Record torque wrench serial number and calibration due date on Attachment 1.
- [J] Apply a tamper indicating seal between the lid and body flanges, when required.
- [K] Record SCA closure date on Attachment 1.
- [L] Ensure a SCA Lift Assembly, load cell, and crane/rigging is attached to the lid.
- [M] Raise the SCA a few inches to obtain gross weight in pounds and record on Attachment 1.
- [N] Record Load Cell serial number and Calibration Due Date on Attachment 1.
- [O] Place SCA on survey stand, and remove the SCA Lift Fixture/crane/rigging from the SCA.
- [P] Print name, sign, and date Attachment 1.
- [Q] Request RCT to perform dose rate and contamination survey of SCA per the following.

NOTE

Prior to shipping the SCAs, a radiological survey of each SCA shall be performed in accordance with DOE/WIPP 02-3184 using site-specific procedures and calibrated instrumentation. The survey shall include contact dose rate measurements for both beta/gamma and neutron radiation in accordance with this section. The maximum contact dose rate measurement for each SCA shall be verified to be ≤ 200 mrem/hr and recorded on Attachment 2 as the contact dose rate of record.

- [Q.1] With the SCA on the SCA Survey Stand, identify the orientation of the filter vent. Refer to Attachment 2, Page 1 for contact dose rate measurement locations.

- [Q.2] Use the orientation of the filter vent to identify the four quadrants of the SCA cylindrical body (Q1 - Q4). Contact dose rate measurements shall be recorded at three locations in each quadrant (e.g., Q1-#1, #2, #3...) and at the center of both the top and the bottom of the SCA.
- [R] **IF** any of the following are exceeded, **THEN** notify the TCO:
- [R.1] Radiation dose rate exceeds 200 mrem/hr at contact (beta + gamma + neutron).
- [R.2] Alpha contamination survey results exceed 20 dpm/100 cm².
- [R.3] Beta/gamma contamination survey results exceed 200 dpm/100 cm².
- [S] Document survey results on Radiation Survey Report per Host site procedure in accordance with Title 10 CFR 835.
- [T] RCT provide the Radiation Survey Report to the TCO.

TCO

- [U] Record the contact dose rate measurement for each location in the corresponding block on Attachment 2, Page 2.
- [V] Total the sum of each beta/gamma and neutron contact dose rate measurement for each location, and record in the appropriate block on Attachment 2, Page 2.
- [W] Determine the highest of the total contact dose rate measurements, and verify it is ≤ 200 mrem/hr.
- [X] Record the highest total contact dose rate measurement as the dose rate of record on Attachment 2, Page 2.
- [Y] Sign and date Attachment 2 certifying the SCA is in compliance with the radiological dose rate limits.
- [Z] Place SCA into staging area or payload (as required).

TCO

[AA] Print name, sign, and date Attachment 1 signifying completion of Attachment 1.

TCO or Designee

NOTE

E-mail notification can be made in lieu of Fax notifications. E-mail addresses can be obtained by contacting the WCO.

[BB] Fax copy of Attachment 1, Survey Report, and any Generator Site Documentation of SCA Gross Weight (if applicable) to WCO.

[CC] Provide copy of Attachment 1, Radiological Survey Report, and any Generator Site Documentation of SCA Gross Weight (if applicable) to TCO.

[DD] Submit Attachment 1, copy of Radiological Survey Report, and any Generator Site Documentation of SCA Gross Weight (if applicable) in accordance with CCP-QP-008.

[EE] Submit Attachment 2 in accordance with CCP-QP-008.

5.0 RECORDS

5.1 Records generated during the performance of this procedure are maintained as QA records in accordance with CCP-QP-008. The records are the following:

5.1.1 QA/Nonpermanent

[A] Attachment 1, SCA Loading Form (includes the following):

[A.1] Copy of Radiological Survey Report

[A.2] Copy of Generator Site Documentation of SCA Gross Weight (if applicable)

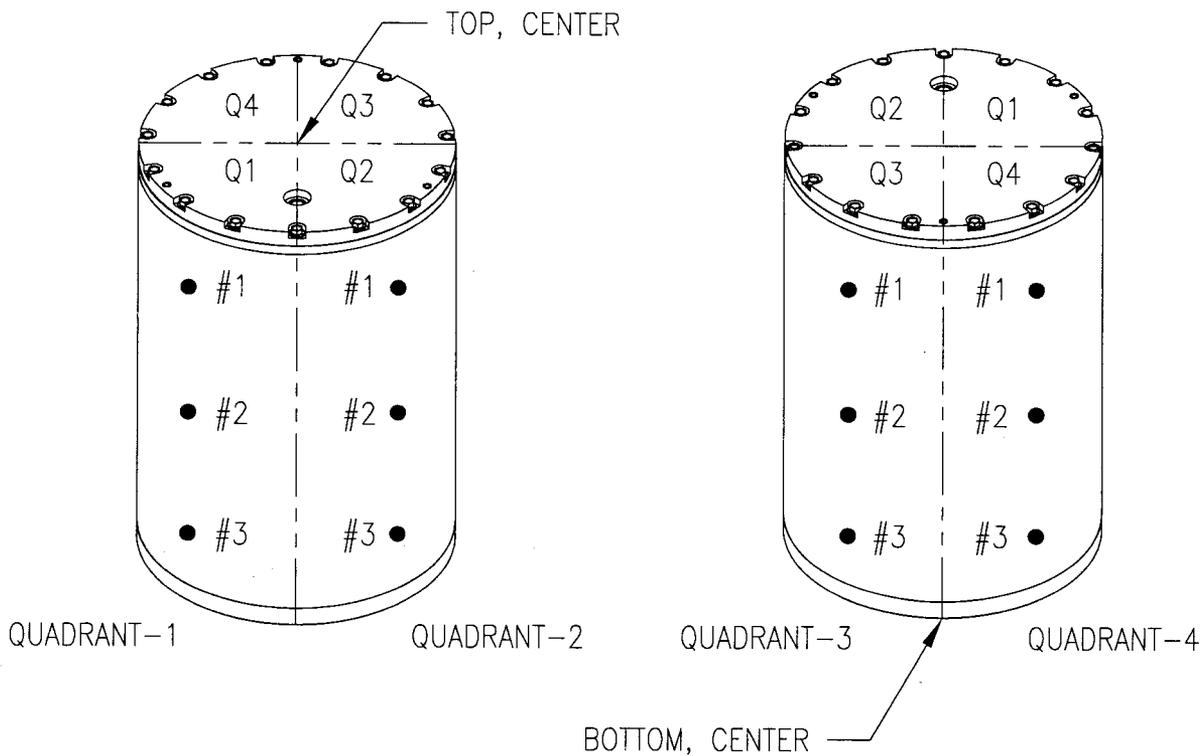
[B] Attachment 2, SCA Dose Rate Survey Form

Attachment 1 – Shielded Container Assembly Loading Form

SCA Inspection		
Shielded Container Assembly ID: _____		
Shielded Container Assembly Serial Number: _____		
Filter Vent Type Number	Filter Vent Serial Number	Date Filter Vent Installed
Filter Vent Torque Wrench Serial Number: _____ Cal Due Date: _____		
Maintenance/Inspections Complete SCA Loading Operator Printed Name _____ Signature _____ Date _____		
Container ID Number	Operator Initials	Peer Verifier Initials
Peer Verifier – Waste Container ID Number loaded into SCA matches Container ID Number listed above. Printed Name _____ Signature _____ Date _____		
SCA Lid Closure Bolts Torque Wrench Serial Number: _____ Cal Due Date: _____		
SCA Closure Date: _____		
Gross Weight in pounds (lbs.) : _____ Load Cell Serial Number: _____ Calibration Due Date: _____		
SCA Loading Operator Printed Name _____ Signature _____ Date _____		
Transportation Certification Official Printed Name _____ Signature _____ Date _____		

Attachment 2 – Shielded Container Assembly Contact Dose Rate Survey

SCA CONTACT DOSE RATE SURVEY LOCATIONS



Attachment 2 – Shielded Container Assembly Contact Dose Rate Survey (Continued)

Shielded Container Assembly Contact Dose Rate Survey Form			
Shielded Container Assembly ID: _____			
Record highest contact dose rate measurements for beta/gamma and neutron. Sum the two values and record the total does rates.			
Contact Dose Rate Measurement	Beta/Gamma (mrem/hr)	Neutron (mrem/hr)	Total Dose Rate
SCA Top			
SCA Bottom			
SCA Q1 #1			
SCA Q1 #2			
SCA Q1 #3			
SCA Q2 #1			
SCA Q2 #2			
SCA Q2 #3			
SCA Q3 #1			
SCA Q3 #2			
SCA Q3 #3			
SCA Q4 #1			
SCA Q4 #2			
SCA Q4 #3			
Verify the highest total contact dose rate measurement is ≤ 200 mrem/hr on the external surface of the SCA, and record as the contact dose rate of record: _____ mrem/hr.			
I certify that the contact dose rate data recorded is correct.			
_____ / _____		_____	
Transportation Certification Official (or designee)		Date	

Attachment 3 – SCA Lid Seal Replacement Instructions

Page 1 of 2

1. Remove the SCA lid according to Subsection 4.1.2.

CAUTION

Steps associated with lid seal replacement present potential eye hazards. Safety glasses with side shields are required while performing lid seal replacement activities.

2. Invert the SCA lid, or place the lid on a suitably configured lid stand to gain access to the seal recess.
3. Remove the existing seal, if present, by manually stripping the seal from the lid flange.
4. If necessary, clean the seal seating area as follows:
 - a. Remove any residual seal components or adhesive using a flexible spatula, putty knife, or similar tool, taking care not to scratch the sealing surface.
 - b. Apply a liberal amount of low intensity cleaning solvent, such as denatured alcohol or a general purpose adhesive remover containing a mixture of Naptha and Xylene. Use of acetone or other strong solvents should be avoided as they will remove the paint/coating.

NOTE

Prior to seal installation, verify that the seal shelf life has not expired.

5. Place the seal in the seal recess in the SCA lid with the protective tape side of the seal against the lid.
6. Peel approximately four to six inches of the protective backing away from the seal adhesive.
7. Tear the protective backing in two, and fold back in either direction away from the exposed adhesive.
8. Place the seal (exposed adhesive side toward lid) into the seal recess in the lid. **DO NOT** stretch the seal during installation.
9. Continue to peel the protective backing away from the adhesive while guiding the seal into the seal recess until seal installation is complete.

Attachment 3 – SCA Lid Seal Replacement Instructions (Continued)

Page 2 of 2

10. Once installed, ensure the seal is in full contact with, and adhered to the lid with no detrimental buckling or creasing of the seal that limits full adhesion.