

WP 05-WH1015

Revision 28

Preparation of CH Packaging for Empty Shipment

Technical Procedure

EFFECTIVE DATE: 02/15/11

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APPROVED FOR USE

CONTINUOUS USE PROCEDURE

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CHANGE HISTORY SUMMARY

REVISION NUMBER	ISSUED DATE	DESCRIPTION OF CHANGES
25	09/01/10	<p>Added Precaution and Limitation bullet that responsible person must initial on Att. 1 any item that is N/A.</p> <p>Added Precaution and Limitation bullet for cycling of vacuum valve.</p> <p>In various locations in document changed from "applicable data" to "Initial" on Attachment 1.</p> <p>In various locations in document changed from specific work instruction number to "applicable work instruction."</p>
26	02/08/11	<p>Editorial changes made throughout.</p> <p>Updated document References section.</p> <p>Revised the Precautions and Limitations Section, adding the following bullets:</p> <ul style="list-style-type: none"> Defined the term "light coat" of vacuum grease and nickel bearing lubricant. Removal of tools prior to installing the lid defining cleanliness of the O-Rings. When to perform the cleaning/application of grease to the OCV and ICV main O-rings. <p>Added "and seal O-ring" to the end of Step 5.3, 1st bullet and Step 7.3, 2nd bullet.</p> <p>Revised steps throughout the document to allow better user performance of the procedure.</p>
27	02/11/11	Editorial change to Note prior to Step 9.2.1 to change referenced Step 9.2.5 to 9.2.1.
28	02/15/11	Editorial change to Step 7.2, updating the return step from 7.5 to 7.3 .

INTRODUCTION ^{1, 2, 3}

This procedure provides instructions for performing an inspection of a TRUPACT-II/HalfPACT and components, and instructions for assembling an empty TRUPACT-II/ HalfPACT for shipment.

Performance of this procedure generates the following record(s), as applicable. Any records generated are handled in accordance with departmental Records Inventory and Disposition Schedules.

- Attachment 1 - Empty CH Packaging Data Sheet

REFERENCES

BASELINE DOCUMENTS

- Title 29 *Code of Federal Regulations* (CFR) §1910.146, "Permit-Required Confined Spaces"
- 30 CFR §57.5015, "Oxygen Deficiency"
- 49 CFR §173.428, "Empty Class 7 (Radioactive) Materials Packaging"
- NRC-Docket 71-9218, *TRUPACT-II Certificate of Compliance*
- NRC-Docket 71-9218, *TRUPACT-II Safety Analysis Report*
- NRC-Docket 71-9279, *HalfPACT Certificate of Compliance*
- NRC-Docket 71-9279, *HalfPACT Safety Analysis Report*
- DOE/WIPP 02-3183, *CH Packaging Program Guidance*
- DOE/WIPP 02-3184, *CH Packaging Operations Manual*
- Multi-Gas Monitor Instruction Manual
- Sampling Pump Instruction Manual

REFERENCED DOCUMENTS

- WP 05-WH1011, CH Waste Processing
- WP 12-HP1100, Radiological Surveys

EQUIPMENT

- Calibrated torque wrenches
 - 10-80 lb-ft or equivalent
 - 0-200 lb-in. or equivalent
- Wet/dry vacuum approved for use inside the Controlled Area (CA)
- Denatured alcohol (no more than 1 gallon per TRUDOCK)
- Vacuum grease or equivalent as approved by Package Maintenance Engineer (PME)
- Nickel Never-Seize or equivalent as approved by PME (small quantity to minimize fire potential)
- Lint-free rags
- Suitable blower (if needed)
- Multi-Gas Monitor (if needed)
- Sampling Pump (if needed)
- Go/no-go O-ring measuring device

PRECAUTIONS AND LIMITATIONS

- Only personnel qualified as Waste Handling Technician/Engineer (WHT/WHE), or trainees operating under the direct supervision of a qualified WHT/WHE, are authorized to perform waste handling activities specified in this procedure.
- Any step that results in N/A on Attachment 1 must be initialed by the responsible person.
- TRUPACT-II/HalfPACT components may not be interchanged with components of other TRUPACT-II/HalfPACTs.
- Cycling of the vacuum valve is permitted to ensure vacuum pressure is obtained.
- Adjustable Center of Gravity Lift Fixture (ACGLF) may be placed on lids at any time during process.
- No more than 1 gallon of denatured alcohol may be at each TRUDOCK.

- Radiological Control must verify items to be inspected are below contamination limits as required per WP 12-HP1100, Attachment 1, before the inspection can be performed.
- When applying vacuum grease to threads of plugs and covers, and their associated O-rings, the term "light coat" should be understood as no more than necessary to give the O-rings a glossy appearance or the threads a dull appearance.
- When applying nickel bearing lubricant to the threads of access covers, bolts, and/or access parts, the term "light coat" should be understood as no more than necessary to give the threads a dull appearance (safety glasses required).
- Failure to remove tools/hardware prior to lid installation may damage packaging.
- Metal tools must **NOT** be used to remove O-rings.
- O-rings are considered clean when they are absent of free-standing vacuum grease, dirt, debris, and other foreign matter.
- WHE is to be notified of any abnormal conditions found during inspections.
- If during the inspection of TRUPACT-II/HalfPACT and associated components a discrepancy is found, or an item is questionable and additional guidance/resolution is needed, contact the PME.
- Quality Assurance (QA) is to be notified if abnormal conditions are noted during inspections.
- The Inner Containment Vessel (ICV) or Outer Containment Vessel (OCV) Locking Rings are not to be rotated with mechanical force.
- CH Packaging identified as "Out of Service" **MUST** be tagged as such with an Equipment Inactivation Tag, QA Hold Tag, or equivalent.
- The Transportation Group **MUST** be notified of any packages identified as "Out of Service."
- If High Wattage Waste was shipped in the TRUPACT-II, it is backfilled with inert gas, and the ICV body must be verified to have > 20% oxygen level prior to entry. Additionally, there is the potential for explosive gas to be present.
- If package was used for radioactive shipment, activity on swipes of upper and lower areas of payload must be verified below acceptable limits as

required per WP 12-HP1100, Attachment 1, prior to entry into the ICV body.

- If Steps 6.1 through 6.1.5 are N/A, sign-off can be performed at any time during the performance of procedure by qualified WHT or WHE.
- Step 11.22 can be performed at any time during the performance of this procedure.
- Cleaning or applying grease to the OCV and ICV main O-ring can be performed at any time during the performance of this procedure.
- Marking devices used on packaging components shall be low in chloride, fluoride, halide, and sulfur content.
- Measures shall be implemented for the identification and control of parts and components. These measures shall be designed to prevent the use of incorrect or defective parts and components on the packaging.

PERFORMANCE

1.0 PACKAGING OPERATIONAL CHECKS AND EXAMINATIONS

- 1.1 Waste Handling (WH), record Outer Containment Assembly (OCA) serial number on Attachment 1.

SIGN-OFF - WH

- 1.2 WH, record torque wrench serial numbers and calibration due dates on Attachment 1.

SIGN-OFF - WH

- 1.3 WH, ensure maintenance labels are present and maintenance is current. (Maintenance is due on the 1st day of the month as indicated.)

SIGN-OFF - WH

NOTE

Step 1.4 can be performed anytime prior to Step 2.1.

- 1.4 Radiological Control Technician (RCT), record survey number and survey date on Attachment 1.

SIGN-OFF - RCT

- 1.5 RCT, **IF** surveys for items in Steps 2.1, 3.1, or 4.1, have been completed previously (during performance of WP 05-WH1011), **AND** results are below contamination limits,
THEN initial each step on Attachment 1.
- 1.6 RCT, **IF** surveys have not been completed previously,
THEN GO TO Section 2.0, 3.0, or 4.0 as applicable.

NOTE

Sections 2.0 through 8.0 (and included steps) must be completed, but may be performed in any order as long as radiological control steps are not bypassed.

2.0 OCA LID INSPECTION AND CLEANING

- 2.1 RCT, **IF** survey has not been completed previously,
THEN survey OCV lid interior and ICV lid exterior and initial on Attachment 1.

SIGN-OFF - RCT

- 2.2 WH, inspect OCA lid for the following:
- Visible deformation
 - Dents or abnormal flat spots > ½ in.
 - Abnormal scratches or gouges
 - Obvious punctures, tears, or cracks in exposed welds
 - Plastic burn-out plugs (3) in place and intact
 - Lift pocket tubes in place
 - Distortions or cracks on or around lifting attachments
 - Lift pocket covers attached and serviceable
 - OCV locking Z-flange screws in place and no visible space between screw head and locking Z-flange, **AND**
IF screws are missing or a space appears between screw head and locking Z-flange,
THEN GO TO applicable work instruction.

- Guide plates and screws in place and ensure that the plate is not loose and that screws are recessed.

OR

IF screws are missing or not recessed,
THEN GO TO applicable work instruction.

- Seal surfaces for scratches/gouges perpendicular to machining marks.

2.3 Remove foreign material from the following:

- Lock Ring Flange
- Sealing Surfaces
- Test Port Access Threads

2.4 Ensure arrow above seal test port aligns with UNLOCKED arrow on Thermal Shield.

2.5 Initial Attachment 1 to document OCA lid components and hardware satisfactory.

SIGN-OFF - WH

3.0 ICV LID INSPECTION AND CLEANING

3.1 RCT, **IF** survey has not been completed previously,
THEN survey ICV lid interior and initial on Attachment 1.

SIGN-OFF - RCT

3.2 WH, inspect ICV lid for the following:

- Visible deformation
- Punctures
- Abnormal scratches or gouges
- Distortions on or around lifting attachments

- Upper spacer and screws installed and no visible space between screw head and top plate

OR

IF screws are missing, or a space appears between screw head and spacer top plate,
THEN GO TO applicable work instruction.

- Debris shield installed and undamaged
- Lock Ring undamaged
- Damaged or missing screws from wiper O-ring holder
- Seal surfaces for scratches/gouges perpendicular to machining marks

3.3 Remove foreign material from the following:

- Lock Ring Flange
- Debris shield
- Sealing Surfaces

3.4 Remove ICV wiper O-ring.

3.5 Clean ICV wiper O-ring and inspect for wear or damage that could impair its function.

3.6 **IF** wiper O-ring is damaged,
THEN GO TO applicable work instruction, and **RETURN TO** Step 3.9.

3.7 Lubricate wiper O-ring with a light coat of vacuum grease.

3.8 Install wiper O-ring.

3.9 Initial Attachment 1 to document ICV lid components and hardware are satisfactory.

SIGN-OFF - WH

NOTE

Sections 4.0 and 6.0 may be performed concurrently.

4.0 OCA BODY INSPECTION AND CLEANING

4.1 RCT, **IF** survey has not been previously completed, **THEN** survey OCA body exterior and ICV body interior and initial on Attachment 1.

SIGN-OFF - RCT

4.2 WH, for installation of tags and removal of main O-rings, perform the following steps:

4.2.1 Install appropriate color coded tag.

- OCV upper and lower
- ICV upper and lower

SIGN-OFF WH**VERIFICATION SIGN-OFF - WH**

4.2.2 Remove, clean, and inspect the following main O-rings, one at a time:

- OCV upper and lower
- ICV upper and lower

SIGN-OFF WH

4.2.3 **IF** O-ring is damaged, **THEN** notify WHE and destroy.

4.3 WH, inspect OCA body for the following:

- Visible deformation
- Obvious punctures or tears
- Obvious cracks in exposed welds
- Dents or abnormal flat spots > ½ in.
- Abnormal scratches or gouges
- Lock bolt threaded inserts (6) intact and threads undamaged
- Tears or fraying > ¼ in. in the ceramic fiber gasket

- Full width and length of ceramic fiber gasket adhered to lower Z-flange
- Lock Ring stop(s) undamaged, if applicable
- Upper main and lower main O-ring grooves and seal surfaces for scratches/gouges perpendicular to machining marks

4.4 Remove any foreign material from the following:

- Test Port threads
- Vent Port threads
- Lock Ring Flange
- Sealing surfaces
- O-ring grooves

4.5 Ensure air flow through OCV helium test ports.

4.6 Initial Attachment 1 to document OCA body inspection is satisfactory.

SIGN-OFF - WH

5.0 OCA COMPONENTS INSPECTION AND CLEANING

NOTE

Sections 5.0 and 7.0 may be performed concurrently.

5.1 Clean and inspect the following for wear or damage that could impair their function:

- OCV vent port cover and O-rings
- OCV vent port access plug
- OCV vent port plug and handling O-ring
- OCV vent port plug seal O-ring
- OCV seal test port access plug
- OCV seal test port plug and seal O-ring
- Lock bolts (6)

5.2 **IF** components are damaged,
THEN GO TO corresponding WI, and **RETURN TO** Step 5.3.

5.3 Apply a light coat of vacuum grease to the following:

- OCV vent port plug threads and seal O-ring
- OCV vent port cover threads and seal O-ring
- OCV seal test port plug threads and O-ring

- 5.4 Ensure annulus debris seal is installed and undamaged.
- 5.5 Apply a light coat of nickel bearing lubricant to the following:
- OCA lock bolt threads (6)
 - OCV seal test port access plug threads
 - OCV vent port access plug threads
- 5.6 Initial Attachment 1 to document OCA component and hardware inspections are satisfactory.

SIGN-OFF - WH

6.0 ICV BODY INSPECTION AND CLEANING

- 6.1 **IF** ICV body was backfilled with inert gas on the previous shipment, **THEN** perform the following:
- 6.1.1 WHE, record and verify Oxygen Monitor serial number (S/N) and calibration due date on Attachment 1.

SIGN-OFF - WHE or N/A

- 6.1.2 WHE, ensure on Attachment 1, Oxygen Monitor daily calibration and sample pump operational check is complete.

SIGN-OFF - WHE or N/A

- 6.1.3 WHE, measure the ICV body oxygen concentration.
- 6.1.4 **IF** the ICV body oxygen concentration is 20% or less, **THEN** ventilate as necessary using a suitable blower.
- 6.1.5 WHE, record on Attachment 1, the ICV body is ventilated to > 20% oxygen, if necessary.

SIGN-OFF - WHE or N/A

- 6.2 Inspect ICV body for the following:
- Lock ring stop(s) undamaged
 - Lock bolt threaded inserts (3) installed and threads undamaged
- 6.3 Remove foreign material from the following:
- Test port threads
 - Vent port threads
 - O-ring grooves
 - Filter ports

- Sealing surfaces
- Lock ring flange

6.4 Inspect the following:

- Upper main and lower main O-ring grooves and seal surfaces for scratches/gouges perpendicular to machining marks
- Vent port threads for damage
- Seal test port threads for damage
- Lock ring flange for galling and burrs
- Lower spacer installed with no punctures in top plate
- Lower spacer screws installed and no detectable gap between screw head and spacer top plate

6.5 Ensure air flow through ICV helium test ports.

6.6 Initial Attachment 1 to document ICV body inspection is satisfactory.

SIGN-OFF - WH

7.0 ICV COMPONENTS INSPECTION AND CLEANING

7.1 Clean and inspect the following for wear or damage that could impair their function:

- ICV vent port cover and seal (gasket or O-ring)
- ICV outer vent port plug and seal O-ring
- ICV inner vent port plug and seal O-ring
- ICV seal test port plug and seal O-ring
- ICV lock bolts (3)

7.2 **IF** components are damaged,
THEN GO TO corresponding WI, and **RETURN TO** Step 7.3.

7.3 Apply a light coat of vacuum grease to the following:

- ICV vent port cover threads (and O-ring if installed)
- ICV outer vent port plug threads and seal O-ring
- ICV inner vent port plug threads and seal O-ring
- ICV seal test port plug threads and seal O-ring

7.4 Apply a light coat of nickel-bearing lubricant to threads of ICV lock bolts (3).

- 7.5 Ensure second set of OCV and ICV main O-rings are correctly identified using go/no-go measuring device and inspect for damage.
- 7.6 Lubricate second set of ICV and OCV upper main and lower main O-rings with a light coat of vacuum grease.
- 7.7 Initial Attachment 1 to document ICV components and hardware inspections are satisfactory.

SIGN-OFF - WH

NOTE

The OCV and ICV upper main and lower main O-rings will be put on one at a time.

- 7.8 WH, install second set of main O-rings and removal of tags, perform the following steps:
- 7.8.1 Install the following main O-rings, with identifying mark or color near vent port, one at a time:
- OCV upper and lower
 - ICV upper and lower

SIGN-OFF WH

- 7.8.2 Ensure O-rings are in their correct location, then remove the color coded tags.
- OCV upper and lower
 - ICV upper and lower

SIGN-OFF WH**VERIFICATION SIGN-OFF - WH****8.0 ICV CAVITY INSPECTION**

- 8.1 Check ICV cavity for water by visually inspecting the absorbent material inserted into hole in lower spacer assembly.

NOTE

Disposal of absorbent material and water will be at the direction of the RCT/Radcon Superintendent with WHE concurrence.

- 8.2 **IF** water is inside ICV, perform the following
- 8.2.1 Notify WHE.

- 8.2.2 Remove water through center hole of lower spacer assembly using approved wet/dry vacuum.
- 8.2.3 Attach absorbent material to a rod and insert in hole in center of lower spacer assembly.
- 8.2.4 **GO TO** Subsection 3.1 of DOE/WIPP 02-3184, perform steps, and **RETURN TO** Step 8.3.

8.3 Initial Attachment 1 to document ICV cavity is free of water.

SIGN-OFF - WH

8.4 Ensure ICV cavity is free of other foreign objects, i.e., swipes, gloves, filters, etc. and initial on Attachment 1.

SIGN-OFF - WH

8.5 Ensure all ICV preshipment inspections are complete and initial Attachment 1.

SIGN-OFF - WH

9.0 ANCILLARY EQUIPMENT

NOTE

If items are loaded into the ICV, the ACGLF may be used with the long or short legs.

NOTE

If the ACGLF with short legs is used to load items into the ICV, a separate technician shall guide the cables into and out of the ICV to prevent damage to the lower seal flange.

9.1 Operator, ensure that the two ACGLF counterweights are at 180 degrees and 000 degrees (± 2 degrees) **BEFORE** lifting ACGLF or lid.

9.2 Equipment Installation

NOTE

The equipment assignment form may be obtained at any time prior to Step 9.2.1, and WHE may sign-off Step 9.2.1 when form is received.

9.2.1 WHE, ensure the current equipment assignment form has been obtained from Transportation and will be used to load the ICV in Step 9.2.5 and initial Attachment 1.

SIGN-OFF - WHE

NOTE

The following criterion is applicable for the visual inspection of the CH Payload Space Frame pallet assembly skip welds **ONLY**. This inspection criterion is applicable to the skip welds that join the top sheet to the outer ring.

- The maximum number of broken skip welds between the top sheet and outer ring shall not exceed 3 consecutive welds.
 - The maximum number of broken skip welds between the top sheet and outer ring shall not exceed 10 welds total for any one pallet.
-

9.2.2 If installing payload pallet(s), perform the following:

- Visually inspect pallets for obvious damage.
- New style payload pallets, ensure lifting pins can rotate.
- Ensure all accessible components are in place and correctly installed.
- Ensure laminate is not lifted, separated, or torn.
- **IF** inspection date expires within one month of the date being loaded,
THEN DO NOT load **AND** notify Transportation.
- Document pallet ID numbers and next annual inspection due date on Attachment 1, including pallets used under dunnage drums.

SIGN-OFF - WH or N/A

9.2.3 If installing Standard Waste Box (SWB) dunnage, perform the following:

- Visually inspect SWB ratchet straps and next annual inspection due date and ensure in good working condition.
- Ratchet straps will be inspected prior to use.
- Document ratchet straps ID numbers and annual inspection due date on Attachment 1.
- **IF** inspection date expires within one month of the date being loaded,
THEN DO NOT load **AND** notify Transportation.

- Ensure the bumper pads are on the top rib of the upper SWB and on the bottom rib of the lower SWB.
- Ensure appropriate rigging is returned to each generator site (e.g., INL rigging to INL).

SIGN-OFF - WH or N/A

9.2.4 After installation of straps ensure the following:

- Inspection tag and/or cable are not caught between the SWB ratchet strap clip and SWB lift clip.
- A minimum of three wraps of nylon webbing around the mandrel (visual indication is no more than a few inches of free tail).
- The handle is in the upright locked position, ensure both locking latches are fully down in the ratchet teeth.
- Ensure webbing is in tension.

SIGN-OFF - WH or N/A

9.2.5 If applicable, load pallets, guide tubes, and other items into ICV per the equipment assignment form obtained from Transportation.

SIGN-OFF - WH or N/A

NOTE

Step 9.2.6 may be performed at anytime prior to completion of procedure.

9.2.6 Record packaging contents in Contents section of Attachment 1.

10.0 ICV LID INSTALLATION

- 10.1 Match ICV lid and body serial numbers.
- 10.2 Record ICV serial number on Attachment 1.

SIGN-OFF - WH

- 10.3 Operator, ensure that the two ACGLF counterweights are at 180 degrees and 000 degrees (± 2 degrees) **BEFORE** lifting ACGLF or lid.
- 10.4 Attach ACGLF to ICV lid.

- 10.5 Align UNLOCKED arrows and install ICV lid onto ICV body using crane and ACGLF.
- 10.6 Install ICV vent port tool into ICV vent port.
- 10.7 Connect Vacuum Line to ICV vent port tool.
- 10.8 Start Vacuum Pump and evacuate to 3 to 15-in. Hg vacuum gauge.
- 10.9 Rotate ICV lock ring to LOCKED position.
- 10.10 Stop vacuum pump.
- 10.11 Disconnect vacuum line from vent port tool.
- 10.12 Remove ICV vent port tool.
- 10.13 Let ICV vent to atmosphere.
- 10.14 Install and torque the following components:
 - ICV inner vent port plug; torque to 55-65 lb-in.
 - ICV seal test port plug; torque to 55 to 65 lb-in.
 - OCV seal test port plug; torque to 55 to 65 lb-in.
 - ICV lock bolts (3); torque to 28-32 lb-ft
- 10.15 Install ICV outer vent port plug; torque to 55 to 65 lb-in.
- 10.16 Install ICV vent port cover; torque to 55 to 65 lb-in.
- 10.17 Initial on Attachment 1 that ICV components and OCV seal test port plug are torqued within designated range.

SIGN-OFF - WH

- 10.18 If the ICV has rotated within the OCV during shipment, the operator can lift an empty ICV with the ACGLF and crane, and reorient it to the required position, **OR** insert the T-handles into the slots and rotate the ICV as necessary.

SIGN-OFF - WH

- 10.19 Ensure all OCV preshipment inspections are complete and initial on Attachment 1.

SIGN-OFF - WH

11.0 OCA LID INSTALLATION

- 11.1 Ensure that all items (tools, parts, rags, etc.) have been removed from the lower Z-flange/seal flange area(s).

SIGN-OFF - WH

- 11.2 Ensure that **NO** ICV parts remain on the Shadow Board.

SIGN-OFF - WH

- 11.3 Match OCA lid and body serial numbers.
- 11.4 Record OCA serial number on Attachment 1.

SIGN-OFF - WH

- 11.5 Operator, ensure that the two ACGLF counterweights are at 180 degrees and 000 degrees (± 2 degrees) **BEFORE** lifting ACGLF or lid.
- 11.6 Attach ACGLF to OCA lid.
- 11.7 Align UNLOCKED arrows and install OCA lid onto OCA body.
- 11.8 Install OCV vent port tool into OCV vent port.
- 11.9 Connect Vacuum Line to OCV vent port tool.
- 11.10 Start Vacuum Pump and evacuate to 3 to 15-in. Hg vacuum gauge.
- 11.11 Rotate OCV lock ring to LOCKED position.
- 11.12 Stop vacuum pump.
- 11.13 Disconnect vacuum line from vent port tool.
- 11.14 Remove OCV vent port tool.
- 11.15 Let OCV vent to atmosphere.
- 11.16 Install OCV vent port plug; torque to 55 to 65 lb-in.
- 11.17 Install OCV vent port cover; torque to 55 to 65 lb-in.
- 11.18 Install the following:
- OCV seal test port thermal plug and access plug; torque access plug to 28 to 32 lb-ft

- OCV vent port thermal plug and access plug; torque access plug to 28 to 32 lb-ft
- OCA lock bolts (6); torque to 28-32 lb-ft
- OCA lift pocket covers.

11.19 Initial on Attachment 1 that OCV/OCA components is torqued within designated range.

SIGN-OFF - WH

11.20 Ensure that **NO** OCV parts remain on the Shadow Board.

SIGN-OFF - WH

11.21 Ensure preshipment preparations complete and unit is ready for transport, and initial Attachment 1.

SIGN-OFF - WH

11.22 Performers of procedure, enter printed name, signature, date, and initials on Attachment 1.

12.0 REVIEW

12.1 WHE, perform the following:

- 12.1.1 Review Attachment 1 for completeness and sign Review/Validation block.
- 12.1.2 Hand-carry or fax a copy of Attachment 1 to Transportation Engineer for Traveler Folder.
- 12.1.3 Forward Attachment 1 to Records Coordinator.
- 12.1.4 If package maintenance is performed, fax or email the completed Maintenance Record to the Packaging Maintenance Engineer.

Attachment 1 - Empty CH Packaging Data Sheet

STEP	DESCRIPTION	INITIAL
1.1	OCA Serial Number: _____	WH
1.2	Torque Wrench S/N: _____ Due Date: _____ Torque Wrench S/N: _____ Due Date: _____	WH
1.3	Maintenance Labels are present and maintenance current.	WH
1.4	Survey No.: _____ Date: _____	RCT
2.1	Activity on swipes of OCA lid interior and ICV lid exterior are below acceptable limits.	RCT
2.5	OCA Lid components and hardware satisfactory.	WH
3.1	Activity on ICV lid interior swipes within acceptable limits.	RCT
3.9	ICV lid components (and hardware, if not previously performed) satisfactory.	WH
4.1	Activity on ICV interior and OCA exterior swipes within acceptable limits.	RCT
4.2.1	Color coded tags attached to the following O-rings: <ul style="list-style-type: none"> ● OCV upper and lower ● ICV upper and lower <div style="text-align: right;">SIGN-OFF</div>	WH
	Color coded tags attached to the following O-rings: <ul style="list-style-type: none"> ● OCV upper and lower ● ICV upper and lower <div style="text-align: right;">VERIFICATION SIGN-OFF</div>	WH
4.2.2	The following O-rings removed, cleaned, inspected: <ul style="list-style-type: none"> ● OCV upper and lower ● ICV upper and lower <div style="text-align: right;">SIGN-OFF</div>	WH
4.6	OCA body inspection satisfactory.	WH
5.6	OCA components and hardware satisfactory.	WH
6.1.1	Oxygen Monitor S/N: _____ Due Date: _____	WHE or N/A
6.1.2	Oxygen Monitor daily calibration verified and sample pump operational check completed.	WHE or N/A
6.1.5	ICV Body ventilated to > 20% oxygen, if necessary.	WHE or N/A
6.6	ICV body inspection satisfactory.	WH
7.7	ICV Components and hardware satisfactory.	WH
7.8.1	Main O-rings installed. <ul style="list-style-type: none"> ● OCV upper and lower ● ICV upper and lower <div style="text-align: right;">SIGN-OFF</div>	WH
	Ensure location of main O-rings and color coded tags removed. <ul style="list-style-type: none"> ● OCV upper and lower ● ICV upper and lower <div style="text-align: right;">SIGN-OFF</div>	WH
7.8.2	Ensure location of main O-rings and color coded tags removed. <ul style="list-style-type: none"> ● OCV upper and lower ● ICV upper and lower <div style="text-align: right;">VERIFICATION SIGN-OFF</div>	WH
	Ensure location of main O-rings and color coded tags removed. <ul style="list-style-type: none"> ● OCV upper and lower ● ICV upper and lower <div style="text-align: right;">VERIFICATION SIGN-OFF</div>	WH
8.3	ICV Cavity free of water.	WH
8.4	ICV Cavity free of all foreign objects i.e., swipes, gloves, filters, etc.	WH
8.5	ICV preshipment inspections complete.	SIGN-OFF WH
9.2.1	Equipment assignment form obtained.	WHE
9.2.2	Pallet ID numbers: _____ Annual Inspection Due Date: _____	WH or N/A
9.2.3	Ratchet Straps ID numbers: _____ Annual Inspection Due Date: _____	WH or N/A

