

NUS

GENERAL TRANSMITTAL RECORD

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PROCESS SERVICES

To: Mr. Charles MacDonald, Chief
U.S. Nuclear Regulatory Commission
Transportation & Safety Division
Washington, D.C. 20005

Subject: _____

Subheading: _____

Transmittal No. WM-012/1

Date Sent 9/16/83

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ITEM	REV. NO.	DATE	DESCRIPTION	COMMENTS
WM-012	B	9/83	NUS-14-170 Series 1	
			Maintenance	

☐ CONTROLLED ☒ NON-CONTROLLED : CONTROLLED DURATION _____

PLEASE ACKNOWLEDGE BY SIGNING HERE AND

MAIL TO THE ADDRESS BELOW.

Distribution Approved By:

Signature

Project Manager

Date

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NUS

PROCESS SERVICES



A. I. Goldfarb & Company

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TITLE

NUS-14-170 SERIES 1 MAINTENANCE

B	<i>[Signature]</i>	9/12/83	S.B. McCay	9/12/83	<i>[Signature]</i>	9/12/83	James P. [Signature]	9/12/83
A	<i>[Signature]</i>	6/28/83	S.B. McCay	6/28/83	<i>[Signature]</i>	6/28/83	<i>[Signature]</i>	6/28/83
	ORIGINATOR	DATE	CHECKED	DATE	QA	DATE	MANAGER	DATE

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1.0 PURPOSE

This procedure describes the correct methods of gasket and ratchet binder replacement on the NUS-14-170 Series 1 shipping cask. This procedure is performed to ensure that all parts and materials used are in compliance with the applicable Nuclear Regulatory Commission issued Certificate of Compliance and that proper records are maintained when gasket or binder replacement is required.

2.0 APPLICABILITY

This procedure is applicable to all gasket and ratchet binder replacement operations performed on the NUS-14-170 Series 1 shipping cask.

2.1 Primary Lid Gasket

2.1.1 Replace gasket every twelve (12) months.

2.1.2 Inspect primary lid gasket primary lid painted alignment markers prior to placement of the primary lid on the cask. Gasket must be free of defects such as nicks, frays, and cuts and the painted alignment markers must be clear and not severely chipped or faded. Replace the gasket or repaint the alignment markers to correct the defects.

2.2 Shield Plug Gasket

2.2.1 Replace gasket every twelve (12) months.

2.2.2 Inspect shield plug gasket and shield plug painted alignment markers prior to

placement of the shield plug on the primary lid. Gasket must be free of defects and the painted alignment markers must be clear and not severely chipped or faded. Replace the gasket or repaint the alignment markers to correct the defects.

2.3 Ratchet Binder

2.3.1 Replace ratchet binders as necessary to ensure positive closure of the main lid to cask body.

2.3.2 Ratchet binders must be inspected prior to securing primary lid to cask body. Ratchets must operate freely through the complete designed travel distance. All working parts must be free of defects such as cracks.
If inspection reveals defects, replace ratchet binders.

2.4 Shield Plug Studs/Nuts

2.4.1 Replace shield plug studs and/or nuts as necessary to ensure positive closure of the shield plug to the primary lid.

2.4.2 Shield plug studs and nuts must be inspected prior to securing shielded plug to the primary lid. Studs and nuts must be free of defects such as thread nicks and cracks.
If inspection reveals defects, replace.

3.0 DEFINITIONS

3.1 Primary lid gasket - 76.2" I.D. X 79.20" O.D. X .38"
Thick Neoprene Durometer 40

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3.2 Shield Plug gasket - 18.5" I.D. X 22.5" O.D. X .38"
Thick Neoprene Durometer 50

3.3 Ratchet Binder - 1 3/4" X 8" Galvanized Type J

3.4 Shield Plug Stud - Driver Type Stud 3/4" - 10UNC-2A
ASTM A-193 Gr B-7

3.5 Shield Plug Nut - Hex head 3/4" - 10UNC-2B ASTM A-194
Gr B-7

4.0 REFERENCES

4.1 NUSPSC Procedure Preparation and Control Procedure No.
QA-001.

4.2 NUSPSC Operating Instructions for Loading and Unloading
the NUS-14-170 Series 1 Shipping Cask Procedure No.
WM-014.

4.3 U.S. Nuclear Regulatory Commission Certificate of
Compliance No. 9151.

4.4 U.S.N.R.C. Safety Evaluation Report on Model No.
NUS-14-170 Series 1 shipping cask Docket No. 71-9151.

4.5 NUSPSC Inventory Control Procedure No. AD-002.

4.6 NUSPSC Procurement Procedure No. AD-001

5.0 RESPONSIBILITIES

5.1 Manager Waste Management Services - Project Manager -
overall responsibility for cask maintenance operations.

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5.2 NUSPSC Shop Manager - Cask Maintenance Manager - responsible for the performance of all required cask maintenance. Procurement of gasket and other replacement parts. All cask replacement parts are procured and controlled in accordance with NUSPSC Procurement Control Procedure No. AD-001.

5.3 Buyer - Procurement, storage and issuing of quality control materials as directed by the Shop Manager.

6.0 TOOLS AND MATERIALS

6.1 Gaskets

6.1.1 Primary Lid

6.1.2 Shield Plug

6.2 Ratchet Binders

6.3 Shield Plug Studs

6.4 Shield Plug Nuts

6.5 Gasket Scraper or clean metal scraper knife

6.6 Stainless steel wire brush - drill type or handheld

6.7 Acetone

6.8 Gasket adhesive (Permatex Super Glue adhesive or equivalent)

7.0 GASKET/SEAL REPLACEMENT

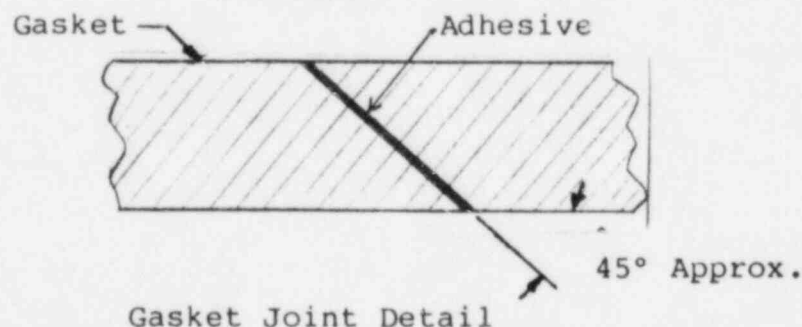
7.1 Primary Lid Gasket Replacement

7.1.1 Remove old flat gasket by hand or use metal

scraper, using care to prevent damage to seating surfaces.

- 7.1.2 Clean entire gasket seating surfaces (both cask body and lid) by using a stainless steel wire brush along with acetone as a cleaning solvent and lubricant.
- 7.1.3 Inspect all seating surfaces for foreign material or nicks which would prevent proper seating and sealing.
- 7.1.4 Inspect new replacement gasket for nicks, frays and cuts. Discard unusable materials.
- 7.1.5 Fit gasket to cask body surface and cut to fit around guide pin maintaining 1/2" cross section minimum. (Sectional replacement permitted)
- 7.1.6 Place gasket adhesive on cask body.
- 7.1.7 Hold gasket in place until initial adhesive sets.
- 7.1.8 Make butt joints using adhesive between the two gasket surfaces. Compress to fit. See Figure 1.

Figure 1



- 7.1.9 Complete attachment 1 and retain in cask users book.

7.2 Shield Plug Gasket Replacement

- 7.2.1 Remove old flat gasket by hand or use metal scrapper, using care to prevent damage to seating surfaces.
- 7.2.2 Clean entire gasket seating surfaces (both primary lid and shield plug) by using a stainless steel wire brush along with acetone as a cleaning solvent and lubricant.
- 7.2.3 Inspect all seating surfaces for foreign material or nicks which would prevent proper sealing.
- 7.2.4 Place gasket in shield plug and mark bolt holes.
- 7.2.5 Punch 7/8" holes in gasket at marked spots.
- 7.2.6 Place adhesive on primary cask lid and hold gasket in place until adhesive is set.
- 7.2.7 Complete attachment 2 and retain in cask user book.

7.3 Shield Plug Hold Down Stud Replacement

Shield plug studs may be replaced and/or repaired in the following manner:

- Heli coil insert
- Increase depth of tap, drill and retap 3/4" - 10UNC using 3/4" - 10UNC-2A stud of appropriate length. Material as specified in NUS Drawing No. 8916-M-2003, Item 7.

7.4 Leak Testing

- 7.4.1 Prior to acceptance of a NUS-14-170 Series 1 shipping cask from the fabricator, a properly

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witnessed pressure test shall be performed and reviewed in accordance with NUSPSC Procedure WM-011 Leak Test.

- 7.4.2 Once every 12 months a leak test shall be performed on each NUS-14-170 Series 1 shipping cask in accordance with WM-013. This test shall be to test gasket and gasket seating surface integrity only.

Attachment 1

NUS-14-170 Series I Primary Lid Gasket Replacement
Checklist

- | | Initials | Date |
|--|----------|-------|
| 1. Old gasket removed | _____ | _____ |
| 2. Gasket seating surfaces clean and free of foreign material and nicks.
(Step 7.1.3) | _____ | _____ |
| 3. Replacement gasket acceptance
(Step 7.1.4) | _____ | _____ |
| 4. Gasket Inventory No: _____ | _____ | _____ |
| 5. Installation completed
(Step 7.1.5 thru 7.1.8) | _____ | _____ |
| 6. Gasket replaced and provided in accordance with maintenance procedure No. WM-015 | | |

Signature

Date

7. Visual inspection of painted alignment markers satisfactory? Yes/No
Alignment markers repainted? Yes/No

Signature

Date

8. Other Maintenance (describe): _____

Signature

Date

Attachment 2

NUS-14-170 Series I Shield Plug Gasket Replacement
Checklist

- | | Initials | Date |
|---|----------|-------|
| 1. Old gasket removed
(Step 7.2.1) | _____ | _____ |
| 2. Gasket seating surfaces clean and
free of foreign material and nicks.
(Step 7.2.3) | _____ | _____ |
| 3. Replacement gasket acceptance | _____ | _____ |
| 4. Gasket Inventory No: _____ | _____ | _____ |
| 5. Installation completed
(Step 7.2.4 thru 7.2.6) | _____ | _____ |
| 6. Gasket replaced and provided in accordance with maintenance
procedure No. WM-012 | | |

Signature

Date

7. Visual inspection of painted alignment
markers satisfactory? Yes/No
Alignment markers repainted? Yes/No

Signature

Date

8. Other Maintenance (describe): _____

Signature

Date