ATG INC.
ALLIED TECHNOLOGY GROUP

May 10, 2001

Mr. E. William Brach, Director
Spent Fuel Project Office
Office of Nuclear Material Safety and Safeguards
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: Model No. 3-82B
Certificate of Compliance No. 6574

Reference: ATG Letter, Dated March 29, 2001

Dear Mr. Brach:

Pursuant to our telephone conversation on May 9, 2001 with Mr. Tim J. McGinty and Ms. Jessica Romana of your staff, ATG has revised the 3-82B cask handling procedure (STD-P-02-024, Cask Handling Procedure for the 3-82B Shipping Cask) referenced in Section 8 (a) of the Certificate.

Revision 5 of the procedure correctly calls out the current CFR references in Section 4.1.1 (49 CFR 173. 403 and 431) and in Section 4.8.1 (10 CFR 20.1906). In addition, minor editorial changes were made to correct section numbering and clarify wording. No other changes were made to the procedure. Please accept the above update and incorporate it into the Certificate by changing the reference in Section 8 (a) to "Operating Procedure STD-P-02-024, Rev 5." A copy of the above procedure is enclosed for your review and file.

Thank you in advance for your timely consideration of this request. If you have any further questions, or require further information, please feel free to contact me at 865-425-5030 or via e-mail at tony.patko@atgcusa.com.

Sincerely,

Anthony L. Patko
Program Manager
Licensed Products

enclosure

cc: 3-82B File
K. Hilton
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NMSS01Public

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# Cask Handling Procedure for the 3-82B Shipping Cask

# STD-P-02-024

**ATG, Inc. - Nuclear Services Division**
**669 Emory Valley Road**
**Oak Ridge, TN 37830**

| Rev. | DCN No. | Originator | Reviewed By | Quality Assurance | Manager | Date |
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☐ New Procedure ☐ Title Change ☒ Minor Revision ☐ General Revision ☐ Rewrite

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## 1. PURPOSE

The purpose of this procedure is to provide instructions for loading/ unloading the 3-82B radioactive waste shipping cask.

## 2. RESPONSIBILITY

It is the responsibility of the user of a United States Nuclear Regulatory Commission (US NRC) certified package (cask) to ensure the following:

2.1 The user has a copy of the Certificate of Compliance (COC) for the cask and the documents referenced therein that contain user-relevant information (i.e., those documents listed in Section 3).

2.2 The user is a registered user of the certified cask.

2.3 Under the user's Quality Assurance Program, the cask is inspected to verify its compliance with the terms and conditions of the COC.

2.4 The cask is loaded and closed in accordance with an appropriate written procedure.

2.5 The cask is loaded in accordance with the COC.

2.6 The shipment meets all the Department of Transportation (DOT), US NRC, burial site disposal criteria, and burial site license requirements.

**NOTE**

**If there is a problem meeting any of the above requirements, immediately notify the ATG, Inc. - Nuclear Services, Oak Ridge, TN office.**

## 3. REFERENCES

3.1 Certificate of Compliance USA/6574/B( )

3.2 SEG Drawing STD-02-076

## 4. PROCEDURE

### 4.1 Ordering the Cask

When ordering the cask, ensure the following:

4.1.1 Waste to be shipped in the cask is either Low Specific Activity [49CFR 173.403], a Type A [49CFR 173.431], greater than Type A, or Highway Route controlled quantity of solid Normal or Special Form [49CFR 173.403] radioactive waste.

4.1.2 Burial site disposal criteria and/or licenses and current copies of 10CFR and 49CFR are in your possession.

4.1.3 Waste is packaged or will be packaged in an acceptable manner in accordance with DOT (49CFR), US NRC (10CFR), and the applicable burial site requirements (burial site disposal criteria and/or licenses).

4.1.4 COC USA/6574/B( ) and the documents referenced therein that contain user-relevant information (i.e., those documents listed in Section 3) are in your possession.

4.1.5 Your site is a registered user of the cask.

4.1.6 Your site has an approved US NRC Quality Assurance Program in accordance with 10CFR 71, Subpart H.

**NOTE**

**If there is a problem ensuring any of the above, immediately notify the regional ATG, Inc. - Nuclear Services, Oak Ridge, TN office.**

## 4.2 Lifting/Movement of Cask/Cask Components

4.2.1 The cask body, primary cask lid, secondary cask lid, upper impact limiter, and lower impact limiter are fitted with lugs which perform different functions as follows:

a. The cask lift lugs are utilized to lift the complete cask, less the upper impact limiter assembly. The upper impact limiter assembly must be removed in order to access the lifting lugs.

A spreader lifting device must be used to lift the cask utilizing the three main lifting lugs. To lift the cask as described above, attach the spreader lifting fixture depicted in Attachment 1, SEG drawing STD-SDd-02-001, of this procedure or ATG, Inc. - Nuclear Services, Engineering-approved equal, to the body lifting lugs by positioning the Adaptors (Item 1) onto each of the three lifting lugs. After the device has been positioned, install the Pins (Item 2) into each Adapter (Item 1) thus locking the fixture onto the lifting lugs.

Install a ¼ in. diameter cotter pin into each of the Pins (Item 2) securing them into position. Install a three leg sling assembly onto the lifting fixture utilizing the attachment holes in the fixture Adapters (Item 1). Each leg of the sling assembly must be 8 ft. in length and capable of lifting a minimum of 17,000 lbs. with an appropriate safety factor (typically 5:1) for each leg.

b. The primary cask lid lift lugs are utilized to lift the primary cask lid (with or without the secondary cask lid). These lugs are not intended for lifting the cask body.

**NOTE**

**All three primary cask lid lift lugs must be utilized simultaneously for any lift operation. A three leg bridle sling with a minimum length of 3 ft. or the HN-200/142 Lift Beam Assembly depicted in Attachment 2, Westinghouse Hittman Drawing STD-02-071, of this procedure, or ATG, Inc. - Nuclear Services, approved equal must be utilized for cask primary lid lifting operations.**

c. The upper impact limiter lift lugs are utilized to lift only the upper impact limiter. These lugs are not intended for lifting the cask body or the completely assembled cask.

**NOTE**

**All three upper impact limiter lift lugs must be utilized simultaneously for this lift operation. A three leg bridle sling with a minimum length of 4 ft. 6 in. or the HN-200/142 Lift Beam Assembly depicted in Attachment 2, Westinghouse Hittman Drawing STD-02-071, of this procedure or ATG, Inc. - Nuclear Services, approved equal must be utilized to lift the upper impact limiter.**

d. The lower impact limiter hold-down lugs are utilized to lift only the lower impact limiter. These lugs are not intended for lifting the cask body or the partially/completely assembled cask.

**NOTE**

**All three lower impact limiter hold-down lugs with the turnbuckles attached must be utilized simultaneously for any lift operation. A three leg bridle sling with a minimum sling length of 7 ft. attached to the free end of each turnbuckle on the lower impact limiter hold-down lugs must be utilized for any lift operation.**

e. The secondary cask lid lift lug is utilized to lift only the secondary cask lid. This lug is not intended for lifting the primary cask lid or the partially/completely assembled cask.

4.2.2 The weights of the cask components are as follows:

| Component | Weight (lbs.) |
|---|---|
| Cask Body | 28,385 |
| Upper Impact Limiter | 3,660 |
| Lower Impact Limiter | 3,660 |
| Primary Cask Lid (without secondary cask lid) | 5,690 |
| Secondary Cask Lid | 410 |
| TOTAL EMPTY WEIGHT | 41,805 |
| MAXIMUM PAYLOAD | 8,195 |

4.2.3 The lifting and movement of the cask/cask components shall be accomplished utilizing the appropriate lugs and rigging. The lifting and movement of the cask/cask components shall be performed in accordance with Sections 4.2.1 and 4.2.2, as required, to inspect, load, ship, and unload the cask.

## 4.3 Removal of Cask Components

4.3.1 Remove the upper impact limiter as follows:

a. Loosen the turnbuckles which attach the upper impact limiter to the cask. Remove the cotter pin and the threadless bolt from the end of each turnbuckle nearest the upper impact limiter tie-down bracket on the cask body.

**NOTES**

**If cask is equipped with a rain cover, it must be removed to access the upper impact limiter lift lugs.**

**If present, the tamper-proof seal on the upper impact limiter must be removed prior to removal of the upper impact limiter.**

b. Note any alignment marks that will facilitate reorienting the upper impact limiter to the cask.

c. In accordance with Section 4.2, lift and remove the upper impact limiter.

4.3.2 Remove the primary cask lid as follows:

a. Loosen and remove the twenty-four (24) 1-inch nuts (typically 1-5/8 inch wrench size) which secure the primary cask lid.

**NOTES**

**The upper impact limiter must be removed to access the primary cask lid hold-down nuts.**

**If present, the tamper-proof seal on the primary cask lid must be removed prior to removal of the primary cask lid.**

b. In accordance with Section 4.2 and exercising caution in the placement of the primary cask lid due to possible contamination of the underside of the lid, lift the primary cask lid off the cask.

4.3.3 Remove the secondary cask lid as follows:

a. Loosen and remove the sixteen (16) ½-inch secondary cask lid nuts (typically 7/8-inch wrench size) which secure the secondary cask lid.

**NOTE**

**If present, the tamper-proof seal on the secondary cask lid must be removed prior to removal of the secondary cask lid.**

b. In accordance with Section 4.2 and exercising caution in the placement of the secondary cask lid due to possible contamination of the underside of the lid, lift the secondary cask lid off the primary cask lid.

4.3.4 Remove the cask from the lower impact limiter as follows:

a. Loosen the turnbuckles which attach the lower impact limiter to the cask. Remove the cotter pin and the threadless bolt from the end of each turnbuckle nearest the lower impact limiter tie-down bracket on the cask body.

b. Note any alignment marks that will facilitate reorienting the cask to the lower impact limiter.

c. Loosen the tie-down ratchets/turnbuckles as necessary to remove pins from shackles at cask end of tie-down system.

d. Remove the pins from shackles.

**NOTE**

**If present, the tamper-proof seal on the lower impact limiter must be removed prior to removal of the cask.**

## 4.4 Installation of Cask Components

4.4.1 Install the primary lid as follows:

a. Ensure the primary cask lid gasket and seat area on lid are free of any material that would prevent a seal. Replace gasket upon signs of wear and deterioration that would prevent the cask from sealing properly.

**NOTE**

**Contact the ATG, Inc. - Nuclear Services, Oak Ridge, TN office if additional guidance is required in determining if seal integrity is affected by existing damage.**

b. In accordance with Section 4.2, lift primary cask lid and lower into place on cask. Use the alignment pins for proper positioning.

c. Install and tighten to a snug condition the twenty-four (24) 1-inch primary cask lid nuts. Note that the studs shall be lubricated for torquing operation.

d. Utilizing a star pattern (a suggested pattern is shown on Enclosure 5.2, Torquing Sequence Diagram), torque the nuts to approximately 150-180 ft-lbs.

e. Repeat Steps 4.4.1.d, torquing the nuts to 200 ft-lbs. ± 10 ft-lbs.

f. Install a tamper-proof seal through the hole provided in the primary lid alignment pin. As an option, the tamper-proof seal may be placed between the upper impact limiter and cask body.

4.4.2 Install the secondary cask lid as follows:

a. Ensure that the secondary lid gasket and seat area on lid are free of any material that would prevent a seal. Replace gasket upon signs of wear and deterioration that would prevent the cask from sealing properly.

**NOTE**

**Contact the ATG, Inc. - Nuclear Services, Oak Ridge, TN office if additional guidance is required in determining if seal integrity is affected by existing damage.**

b. In accordance with Section 4.2, lift the secondary cask lid and lower into place on the primary cask lid. Use the alignment pins for proper positioning.

c. Install and tighten to a snug condition the sixteen (16) 1/2-inch secondary cask lid nuts. Note that the studs shall be lubricated for the torquing operation.

d. Utilizing a star pattern (a suggested pattern is shown on Enclosure 5.2), torque the nuts to 35-40 ft-lbs.

e. Repeat Step 4.4.2.d to be certain all nuts are tight.

4.4.3 Install the upper impact limiter as follows:

a. In accordance with Section 4.2, lift the upper impact limiter and lower into position on the cask.

**NOTE**

**The upper impact limiter is a close fit to the cask. Use the alignment marks provided and ensure that the impact limiter and cask-trailer combination are level.**

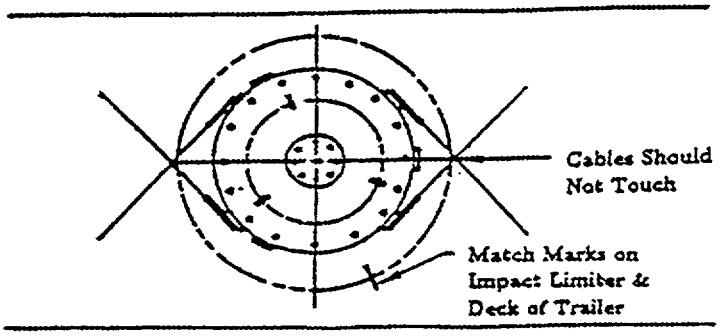
b. Reinstall the turnbuckles which attach the upper impact limiter tie-down brackets on the cask body. Hand-tighten the turnbuckles.

c. If the tamper-proof seal was not placed on the cask primary lid, a tamper-proof seal must be installed between the upper impact limiter and the cask body.

4.4.4 Install the cask in the lower impact limiter as follows:

**NOTE**

**If the lower impact limiter is to be positioned on the trailer before reinstalling the cask in it, heed Step 4.2.1.d and the orientation requirements of Sketch 1.**




SKETCH 1

4.4.5 Inspect the lower seal retaining band gasket on the cask body to ensure no tear or damage is present that would affect the seal of this gasket.

a. Inspect the inside of the lower impact limiter to ensure that no debris or water is present. Remove any foreign materials from this area.

b. In accordance with Section 4.2, lift the cask.

c. Inspect the bottom of the cask to ensure that no debris is stuck there. Remove any foreign material found.

d. Using alignment marks identified in Step 4.3.4.b, lower the cask into the lower impact limiter in the proper orientation.

e. Reinstall the turnbuckles which attach the lower impact skirt to the cask at the lower impact skirt tie-down brackets on the cask body. Hand-tighten the turnbuckles.

f. Install a tamper-proof seal between the lower impact limiter and the cask body.

4.4.6 Install the cask on its trailer as follows:

a. In accordance with Section 4.2, lift cask and place cask in proper position on the trailer. See Sketch 1 for proper orientation.

**NOTE**

**The lower impact limiter must be installed on the cask body or positioned on the trailer prior to performing the installation of the cask on the trailer.**

## 4.5 Receipt Inspection

4.5.1 Radiation Survey

a. Survey the empty cask and the vehicle to determine the maximum removable and fixed contamination levels.

External loose contamination levels should be less than 2,200 dpm/100 $cm^2$ beta-gamma and less than 220 dpm/100 $cm^2$ alpha.

External fixed contamination levels should be less than 0.5 mrem/hr.

**NOTES**

**Fixed contamination greater than 0.5 mrem/hr, but less than 50 mrem/hr, requires the cask to have a Yellow II label. Under such conditions the empty cask must be a Radioactive Shipment and be accompanied by properly completed Radioactive Shipment Records.**

**If cask is received with contamination levels in excess of those above, immediately notify the ATG, Inc. - Nuclear Services, Oak Ridge, TN office.**

b. If removable radioactive contamination in excess of 22,000 dpm/100 $cm^2$ of package surface is found on the external surfaces of the package, immediately notify the final delivering carrier and by telephone and telegraph, mailgram or facsimile, the appropriate Nuclear Regulatory Commission Inspection and/or Enforcement Regional Office.

4.5.2 Inspect Tie-downs

a. Inspect tie-down lugs and shackles on cask and trailer for cracks and wear which would affect their strength.

b. Inspect tie-down cables to ensure they are not loose or damaged (frayed, crimped, etc.).

c. Inspect tie-down ratchets/turnbuckles to ensure that they are in proper working condition and that the ratchet sprockets are properly lubricated.

4.5.3 Inspect Cask

a. If cask is equipped with a rain cover, remove rain cover.

b. Inspect cask to verify that the turnbuckles and links which secure the impact limiters to the cask (three for each limiter) are present, undamaged, and are in proper working condition.

c. Inspect lower seal retaining band and gasket at lower impact limiter to ensure they are not damaged.

d. Remove upper impact limiter in accordance with Section 4.3.1 and inspect the primary cask lid hold-down nuts to ensure all twenty-four (24) 1-inch nuts are present and undamaged.

e. Remove primary cask lid in accordance with Section 4.3.2.

f. Inspect the primary cask lid hold-down studs for damage.

g. Inspect and clean gasket attached to the cask body. Brush off and thoroughly clean the gasket-to-lid interface area. Replace gasket upon signs of wear and deterioration that would prevent the cask from sealing properly.

**NOTES**

**Contact the ATG, Inc. - Nuclear Services, Oak Ridge, TN office if additional guidance is required in determining if seal integrity is affected by existing damage.**

**Cask must be properly sealed prior to shipment.**

h. Inspect interior of cask for obstructions to loading.

**NOTE**

**Water must be removed prior to shipment.**

i. Inspect interior of cask for defects which might affect the cask integrity or shielding offered by the cask.

j. Inspect the secondary cask lid hold-down studs and nuts to ensure that they are all present and not damaged.

k. If the tamper-proof seal on the secondary cask lid is broken or this lid is to be removed for operations, verify that the secondary cask lid gasket has no visible defects as follows:

(1) Remove the secondary cask lid from the primary cask lid in accordance with Section 4.3.3.

(2) Inspect the secondary cask lid hold-down studs for damage, excessive corrosion, and signs of wear.

(3) Inspect the secondary cask lid gasket for visible defects or wear that would prevent the cask from sealing properly.

**NOTES**

**Contact the ATG, Inc. - Nuclear Services, Oak Ridge, TN office if additional guidance is required in determining if seal integrity is affected by existing damage.**

**Cask must be properly sealed prior to shipment.**

l. Inspect the gasket change data tag to ensure that the dates of the primary and secondary cask lid gasket changes reflect compliance with the requirements of the cask COC.

**NOTE**

**If the gasket change data tag is found to be defective or missing, immediately notify the ATG, Inc. - Nuclear Services, Oak Ridge, TN office. The cask may be utilized until a replacement tag is attached upon verification by ATG, Inc. - Nuclear Services, that the gaskets are in compliance with the cask COC.**

## 4.6 Loading Cask

4.6.1 If the waste container contains materials that do not exceed low specific activity concentration limits, and the container is being shipped within 10 days of its preparation or within 10 days of its last venting, the following step may be omitted.

4.6.2 If the waste container contains water or organic substances which could radiolytically generate combustible gases, specific shipping criteria related to gas generation contained in the cask COC (Section 6) must be met. Refer directly to the cask COC for these requirements.

4.6.3 Cask loading can be accomplished by one of the following methods:

a. Filling Waste Container in Cask

**NOTE**

**Review Pre-Release Checklist (Enclosure 5.1) or similar site document and the shipping papers to ensure that inspections required on the checklist or site document are performed during the cask loading process as necessary and that information required on the shipping papers is determined as necessary.**

(1) Place the empty waste container into the cask. Dunnage, shoring and/or bracing is not required for close-fitting containers. If the waste container is significantly smaller than the internal cavity of the cask, sufficient shoring, dunnage, and/or bracing shall be provided to ensure that the payload will not shift significantly during shipping.

Empty waste container weight 2,000 lbs. (approximate maximum).

(2) Install the primary cask lid in accordance with Section 4.4.1.

(3) Remove the secondary cask lid (if not already removed) in accordance with Section 4.3.3.

(4) Load waste into waste container through the secondary cask lid opening.

(5) After waste container is loaded, install waste container lid, plugs or caps onto waste container.

(6) Reinstall secondary cask lid in accordance with Section 4.4.2.

b. Loading Full Waste Container Into Cask

**NOTE**

**Review Pre-Release Checklist (Enclosure 5.1) or similar site document and the shipping papers to ensure that inspections required on the checklist or site document are performed during the cask loading process as necessary and that information required on the shipping papers is determined as necessary.**

(1) Ensure that waste container lid, caps or plugs are securely installed on the waste container.

(2) Place the loaded waste container into the cask. Dunnage, shoring, and/or bracing is not required for close-fitting waste containers. If the waste container is significantly smaller than the internal cavity of the cask, sufficient dunnage, shoring, and/or bracing shall be provided to ensure the payload will not shift significantly during shipment.

Loaded waste container weight is 8,195 lbs. (maximum).

(3) Install primary cask lid in accordance with Section 4.4.1.

(4) Install secondary cask lid (if it was removed) in accordance with Section 4.4.2.

c. Loading Full Drums Into Cask

**NOTE**

**Review Pre-Release Checklist (Enclosure 5.1) or similar site document and the shipping papers to ensure that inspections required on the checklist or site document are performed during the cask loading process as necessary and that information required on the shipping papers is determined as necessary.**

(1) If necessary, place empty pallet in cask.

Empty pallet weight is 500 lbs. (approximate).

(2) Load full drums into cask on the pallet. Ensure that drums are not placed on top of pallet lift slings and ensure access to pallet lift slings for removal of pallet at burial site.

Weight is 800 lbs. per drum (approximate).

(3) Install dunnage, shoring, and/or bracing as necessary to secure drums in place inside cask.

(4) Install primary cask lid in accordance with Section 4.4.1.

(5) Install secondary cask lid (if it was removed) in accordance with Section 4.4.2.

d. Loading Full Drums Outside Cask

**NOTE**

**Review Pre-Release Checklist (Enclosure 5.1) or similar site document and the shipping papers to ensure that inspections required on the checklist or site document are performed during the cask loading process as necessary and that information required on the shipping papers is determined as necessary.**

(1) If necessary, remove empty pallet from cask.

(2) Empty pallet weight is 500 lbs. (approximate).

(3) Load full drums into pallet.

Weight is 800 lbs. per drum (approximate).

(4) Lift pallet and drums using pallet lift slings and place into cask.

(5) Ensure access to pallet lift slings for removal at burial site.

(6) Install dunnage, shoring, and/or bracing as necessary to secure drums in place inside cask.

(7) Install primary cask lid in accordance with Section 4.4.1.

(8) Install secondary cask lid (if it was removed) in accordance with Section 4.4.2.

## 4.7 Preparing Cask and Vehicle For Shipment

4.7.1 Prior to each shipment of Type B quantities of material which are not classified as Low Specific Activity, a leak test shall be performed in accordance with the ATG-provided leak test procedure (STD-P-02-017).

4.7.2 If the drain plug has been removed, reinstall it with pipe thread sealant.

4.7.3 Reassemble the cask and reposition it on the trailer (if necessary) in accordance with Section 4.4.

4.7.4 Install a tamper-proof seal on the primary cask lid. The tamper-proof seal can be installed utilizing the hole in the primary cask lid alignment pin or by installing a tamper-proof seal between the upper limiter and the cask body.

4.7.5 Install a tamper-proof seal on the secondary cask lid utilizing the hole in the secondary cask lid alignment pin.

4.7.6 Install a tamper-proof seal between the lower impact limiter and the cask body.

4.7.7 Survey the loaded cask to ensure compliance with 10 CFR 71.47. Inspect for surface contamination per the requirements of 10 CFR 71.87(i). Complete the necessary shipping papers, certifications, and Pre-Release Checklist (Enclosure 5.1) or site equivalent.

4.7.8 Ensure that all of the upper impact limiter lift lugs are covered for transit.

4.7.9 If cask is equipped with a rain cover, install rain cover.

4.7.10 Placard vehicle and label cask as necessary.

4.7.11 Recheck all cask tie-down devices for proper security.

## 4.8 Unloading Cask

4.8.1 Survey the cask and trailer in accordance with the applicable requirements of 10CFR 20.1906 and any applicable site requirements.

4.8.2 Perform an external inspection of the unopened package. Record any significant or potentially significant observations.

4.8.3 Remove rain cover (if so equipped).

4.8.4 Remove upper impact limiter in accordance with Section 4.3.1 of this procedure.

4.8.5 Remove the primary cask lid in accordance with Section 4.3.2 of this procedure.

4.8.6 Exercising caution due to possible high dose rate, connect slings from waste container or pallet to a suitable lifting device.

Maximum waste container weight is 8,195 lbs.
Maximum pallet weight is 2,800 lbs.

4.8.7 Exercising caution due to possible high dose rate, lift waste container or pallet clear of cask and place in disposal area.

4.8.8 After unloading the entire package, the interior and exterior shall be visually inspected to ensure that it has not been damaged, i.e., no cracks, punctures, holes or broken welds.

4.8.9 Install primary cask lid, upper impact limiter and rain cover (if so equipped) in accordance with Sections 4.4.1 and 4.4.3 of this procedure.

4.8.10 The following configuration checks shall be performed after unloading and prior to any loading activity:

a. Exterior nameplates, stencils, placards and other required identification is in place and legible.

b. Turnbuckles and links which secure impact limiters, stud nuts for cask lids and gaskets are in place and in good condition and free of defects.

c. All required documentation is completed and retained/displayed as specified by the regulatory authority and the user.

4.8.11 Survey the cask and trailer for release in accordance with applicable site requirements.

## 5. ENCLOSURES

5.1 Pre-Release Checklist

5.2 Torquing Sequence Diagram

## ENCLOSURE 5.1
## Pre-Release Checklist

Date _____

Shipment No. _____

Transport Co. _____

Time of Arrival at Site _____

Time of Departure from Site _____

**Initial**

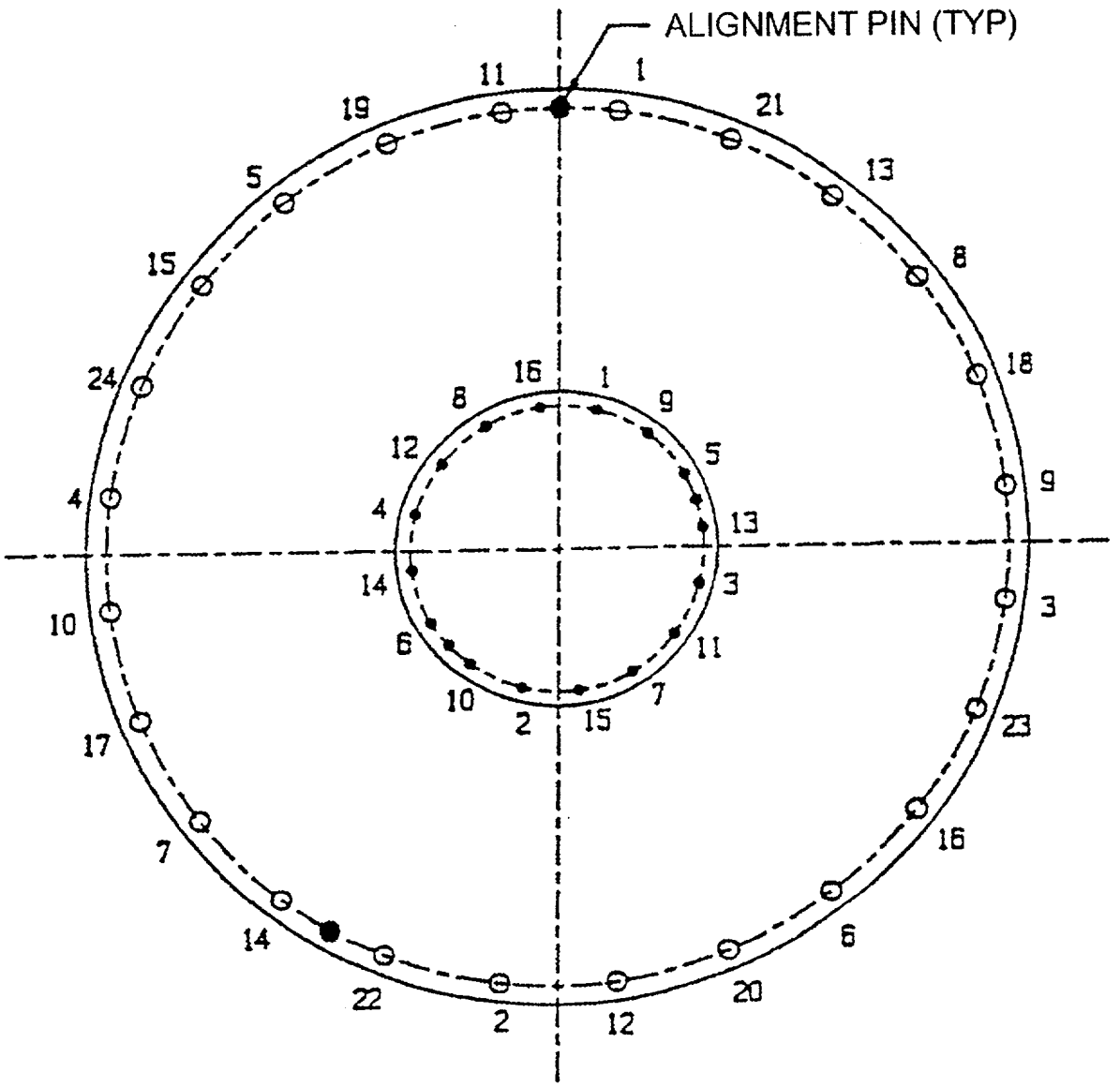
1. Inner Container(s) Sealed _____
2. Inner Container(s) Secured in Place _____
3. All Gaskets and Gasket Sealing Surfaces Inspected and Meet Acceptance Criteria _____
4. Primary Cask Lid and/or Secondary Cask Lid Hold-down Nuts Torqued _____
5. Tamper-proof Seals Inspected _____
6. Lifting Lug Covers Installed _____
7. Cask Tie-downs Inspected _____
8. Cask Properly Labeled _____
9. Vehicle Properly Placarded _____
10. Surveys Completed and Recorded _____
11. Shipping Papers Properly Filled Out and Signed _____

Signature _____

Title _____

Date _____

## ENCLOSURE 5.2
## Torquing Sequence Diagram



## ATTACHMENT 1
## SEG Drawing STD-SDd-02-001

| DOC. TITLE | DOC. CAT. |
|---|---|
| 3-82B Cask Lifting Fixture | |

| SEG DOC. NO. | REV. (SRL) |
|---|---|
| STD-SDd-02-001 Sheet 1 of 2 | 0 |

SUPPLIER DOC. NO./REV. Worksheet Rev 0

CUSTOMER DOC. NO. N/A

DOCUMENT APPLIES TO FOLLOWING EQUIPMENT

SEG P.O. - P.O. ITEM NO. N/A

| SUPPLIER | MANUFACTURER |
|---|---|
| Pacific Northwest Labs | Various |

SEG PART NO. N/A

CUSTOMER PART NO. N/A

CUSTOMER P.O. NO. N/A

ADDITIONAL INFORMATION

DOCUMENT HAS BEEN MARKED/EDITED BY SEG

CODE 1 - APPROVED WITHOUT COMMENT
CODE 2 - APPROVED WITH COMMENT
WITH R - REVISION & SUBMITTAL REQUIRED
CODE 3 - NOT APPROVED
CODE 4 - ACCEPTABLE FOR INFORMATION

| REV. | SUBMITTAL DATE | DISP. CODE | SIGNATURE | DATE |
|---|---|---|---|---|
| 0 | 2/14/96 | 1 | Jeffrey F. McCarthy | 2/14/96 |
| | | | | |
| | | | | |
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| REV. | SEG REVISION DESCRIPTIONS |
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| 0 | Initial Issue |
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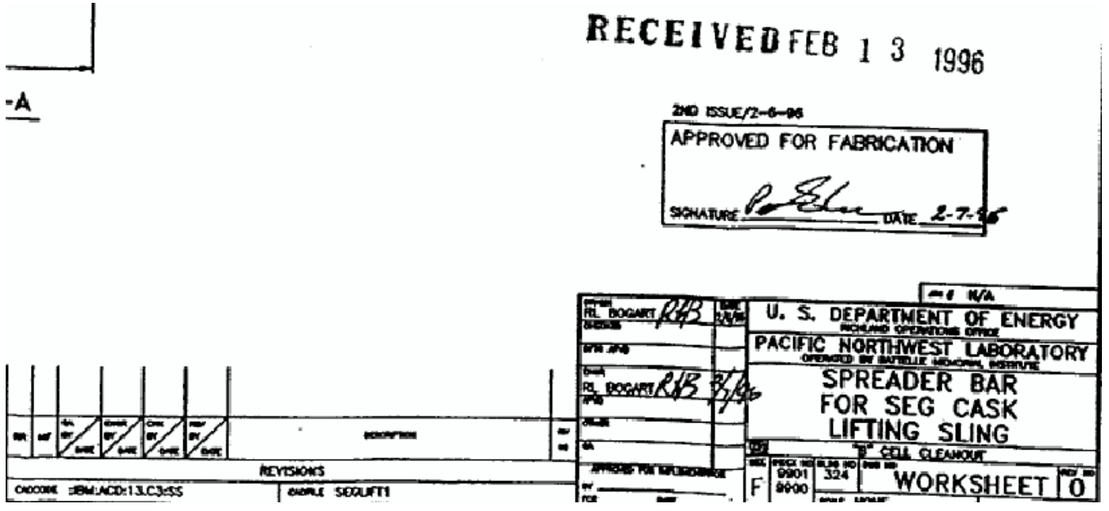
DOCUMENT DISPOSITION BLOCK

FIGURE WITHHELD UNDER 10 CFR 2.390



| DOC. TITLE | DOC. CAT. |
|---|---|
| 3-82B Cask Lifting Fixture | |

| SEG DOC. NO. | REV. (SRL) |
|---|---|
| STD-SDd-02-001 Sheet 2 of 2 | O |

SUPPLIER DOC. NO./REV. Worksheet Rev 0

CUSTOMER DOC. NO. N/A

DOCUMENT APPLIES TO FOLLOWING EQUIPMENT

SEG P.O. - P.O. ITEM NO. N/A

| SUPPLIER | MANUFACTURER |
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SEG PART NO. N/A

CUSTOMER PART NO. N/A

CUSTOMER P.O. NO. N/A

ADDITIONAL INFORMATION

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| 0 | 2/14/96 | 1 | Jay F. McCarty | 2/14/96 |
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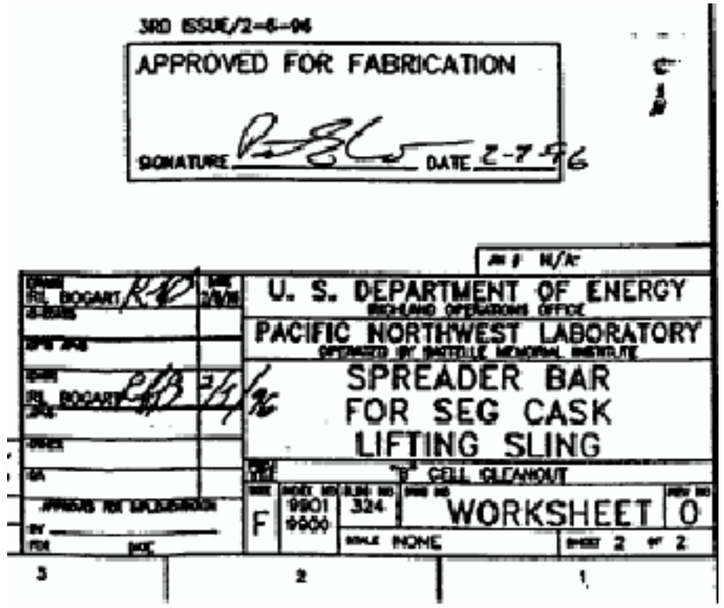


FIGURE WITHHELD UNDER 10 CFR 2.390

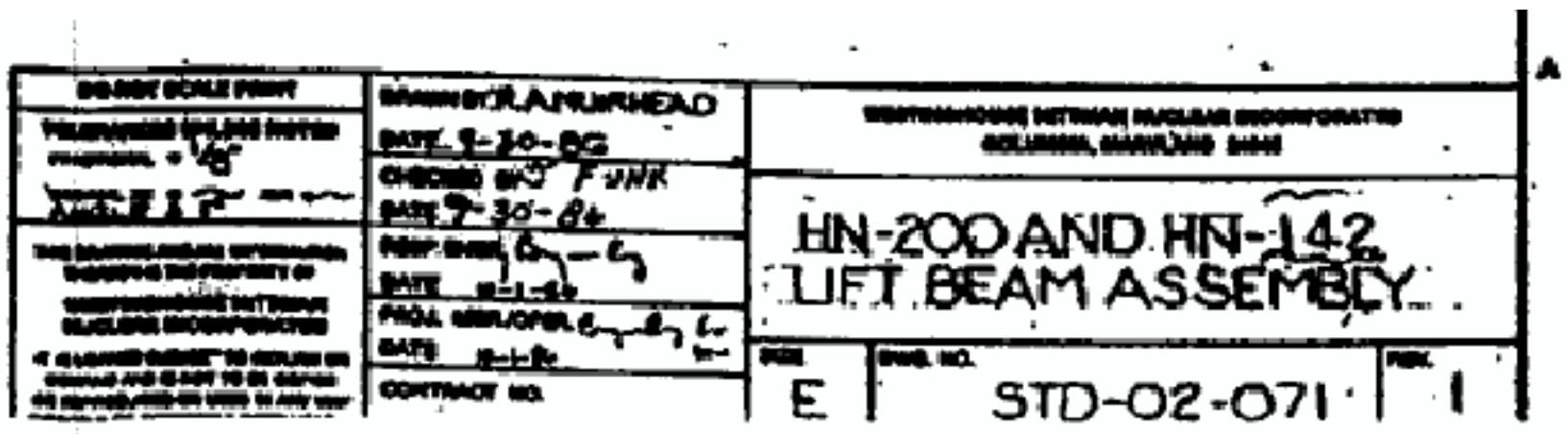
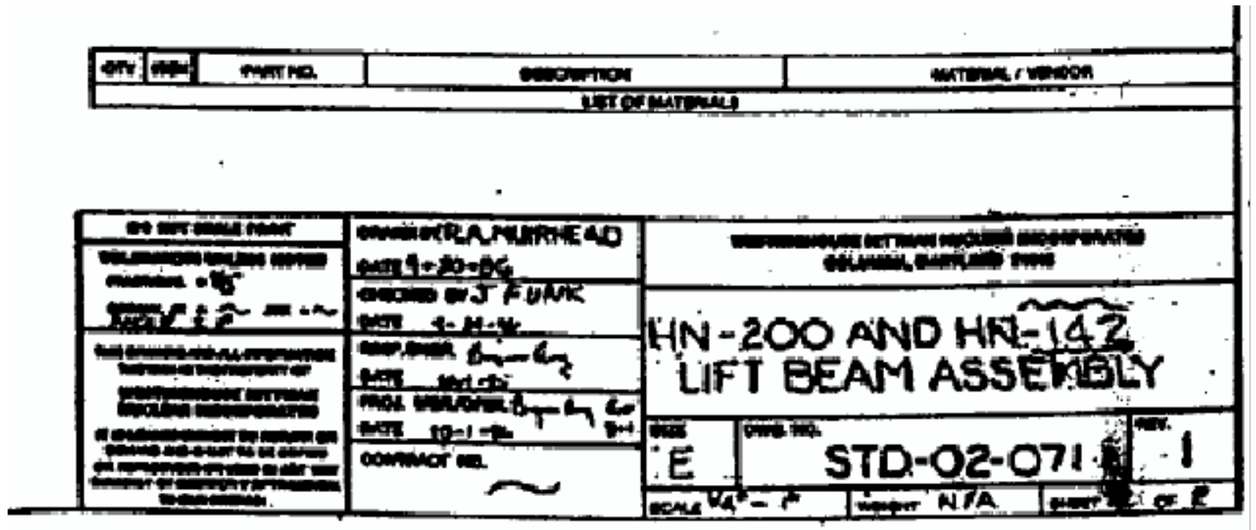


FIGURE WITHHELD UNDER 10 CFR 2.390



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