

71-9168



# CHEM-NUCLEAR SYSTEMS, LLC

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Mr. E. William Brach, Director  
Spent Fuel Project Office  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

August 30, 2000  
579-158-00

**REFERENCES:** (1) **AUGUST 30, 2000 TELEPHONE CONVERSATION BETWEEN STEPHEN BAGGET, USNRC AND SHAYNE MERRITT, CHEM-NUCLEAR SYSTEMS**  
(2) **AUGUST 23, 2000 LETTER (579-058-00) TO WILLIAM BRACH, USNRC, FROM PATRICK L. PAQUIN, CHEM-NUCLEAR SYSTEMS**

Dear Mr. Brach:

**SUBJECT: SAFETY ANALYSIS REPORT FOR MODEL NO. 8-120B, REV. 4**

Chem-Nuclear Systems respectfully resubmits Chapter 7 of the Safety Analysis Report (SAR) for the CNS 8-120B Certificate of Compliance No. 9168.

The purpose of this submittal is to correct the discrepancies in Chapter 7 discussed during the referenced August 30<sup>th</sup> telephone conversation. Enclosed is a complete new set of Revision 4 pages for Chapter 7. Please discard the Chapter 7 pages from our August 23, 2000 submittal, and replace with these pages. The changes made in this submittal are summarized as follows:

- Section 7.1.17(a) and the 1<sup>st</sup> paragraph of Section 7.2 : changed 10CFR reference from 20.205 to 20.1906.
- Section 7.1.6 : The note to perform an assembly verification leak test was reinstated.
- Section 7.1: The general note after 7.1.9.A was revised to apply to the secondary lid and a new note was added following Step 7.1.9 to address the primary lid.

Please note that Chem-Nuclear uses an Engineering Change Order (ECO) form to document changes to drawings. These completed forms are maintained in accordance with our Quality Assurance Program. This method eliminates the use of change blocks on the drawing.

If you or members of your staff have any additional questions about the application, or wish to arrange a meeting to discuss the changes we have requested, please feel free to contact Shayne Merritt at (803) 758-1838.

Sincerely,

Patrick L. Paquin  
General Manager

Enclosure: As stated

NMSSOIPW112

## 7.0 OPERATING PROCEDURE

This chapter describes the general procedure for loading and unloading of the CNS 8-120B Cask.

### 7.1 Procedure for Loading the Package

7.1.1 Loosen and disconnect ratchet binders from upper overpack.

7.1.2 Using suitable lifting equipment, remove upper overpack assembly. Care should be exercised to prevent damage to overpack during handling and storage.

7.1.3 Determine if cask must be removed from trailer for loading purposes. To remove cask from trailer:

7.1.3.1 Disconnect cask to trailer tie-down equipment.

7.1.3.2 Attach cask lifting ears and torque bolts to 200 ft-lbs  $\pm$  20 ft-lbs lubricated.

7.1.3.3 Using suitable lifting equipment, remove cask from trailer and the lower overpack and place cask in level loading position.

NOTE: The cables used for lifting the cask must have a true angle, with respect to the horizontal of not less than 60°.

NOTE: In certain circumstances, loading may be accomplished through the secondary lid; while the primary lid remains on the cask. Alternate "(A)" steps have been included to accommodate this situation.

7.1.4 Loosen and remove the twenty (20) bolts which secure the primary lid to cask body.

7.1.4.A Loosen and remove the twelve (12) bolts which secure the secondary lid to the primary lid.

NOTE: The cables used for lifting either lid must have a true angle, with respect to the horizontal, of not less than 45°.

7.1.5 Remove primary lid from cask body using suitable lifting equipment. Care should be taken during lid handling operations to prevent damage to cask or lid seal surfaces.

7.1.5.A Remove secondary lid from cask body using suitable lifting equipment. Care should be taken during lid handling operations to prevent damage to cask or lid seal surfaces.

7.1.6 Inspect cask interior for damage, loose materials or moisture. Clean and inspect seal surfaces. Replace seals when defects or damage is noted which may preclude proper sealing.

NOTE: In the case of not having package designs with the optional drain line, radioactively contaminated liquids may be pumped out or removed by use of an absorbent material. Removal of any material from inside the cask shall be performed under the supervision of qualified health physics personnel with the necessary H.P. monitoring and radiological health safety precautions and safeguards.

NOTE: When seals are replaced, leak testing is required as specified in section 8.2.2.2.

7.1.7 Place disposable liner, drums or other containers into cask and install shoring or bracing, if necessary, to restrict movement of contents during normal transport.

7.1.7.A Process liner as necessary, and cap using standard capping devices.

7.1.8 Clean and inspect lid seal surfaces.

7.1.9 Replace and secure primary lid to cask body using the twenty (20) lid bolts torqued, using a star pattern, to 500 ft-lbs  $\pm$  50 ft-lbs lubricated.

NOTE : Leak test the primary lid o-rings in accordance with Section 8.2.2.2, prior to shipment of the package loaded with greater than "Type A" quantities of radioactive material. The vent port shall be leak tested in accordance with Section 8.2.2.2 if it has been removed. For content exemptions of this test, refer to the current Certificate of Compliance No. 9168.

7.1.9.A Replace and secure the secondary lid to the primary lid using the twelve(12) lid bolts torqued, using a star pattern, to 250 ft-lbs  $\pm$  25 ft-lbs lubricated.

NOTE : Leak test the secondary lid o-rings in accordance with Section 8.2.2.2, prior to shipment of the package loaded with greater than "Type A" quantities of radioactive material. The vent port shall be leak tested in accordance with Section 8.2.2.2 if it has been removed. For content exemptions of this test, refer to the current Certificate of Compliance No. 9168.

7.1.10 If cask has been removed from trailer, proceed as follows to return cask to trailer:

7.1.10.1 Using suitable lifting equipment, lift and position, cask into lower overpack on trailer in the same orientation as removed.

7.1.10.2 Unbolt and remove cask lifting ears.

7.1.10.3 Reconnect cask to trailer using tie-down equipment.

7.1.11 Using suitable lifting equipment, lift, inspect for damage, and install upper overpack assembly on cask in the same orientation as removed.

7.1.12 Attach and hand tighten ratchet binders between upper and lower overpack assemblies.

7.1.13 Cover lift lugs as required.

7.1.14 Install anti-tamper seals to the designated ratchet binder.

7.1.15 Inspect package for proper placards and labeling.

7.1.16 Complete required shipping documentation.

7.1.17 Prior to shipment of a loaded package, the following shall be confirmed:

(a) That the licensee who expects to receive the package containing materials in excess of Type A quantities

specified in 10 CFR 20.1906(a) meets and follows the requirements of 10 CFR 20.1906. as applicable.

- (b) That trailer placarding and cask labeling meet DOT specifications (49 CFR 172).
- (c) That all radiation and surface contamination levels are within the limits of the applicable Federal Regulations.
- (d) That all anti-tamper seals are properly installed.

## 7.2 Procedure for Unloading Package

In addition to the following sequence of events for unloading a package, packages containing quantities of radioactive material in excess of Type A quantities specified in 10 CFR 20.1906(a) shall be received, monitored, and handled by the licensee receiving the package in accordance with the requirements of 10 CFR 20.1906 as applicable.

- 7.2.1 Move the unopened package to an appropriate level unloading area.
- 7.2.2 Perform an external examination of the unopened package. Record any significant observations.
- 7.2.3 Remove anti-tamper seals.
- 7.2.4 Loosen and disconnect ratchet binders from the upper overpack assembly.
- 7.2.5 Remove upper overpack assembly using caution not to damage the cask or overpack assembly.
- 7.2.6 If cask must be removed from trailer, refer to Steps 7.1.3.
- 7.2.7 Loosen and remove the twenty (20) primary lid bolts.

NOTE: The cables used for lifting the lid must have a true angle. with respect to the horizontal of not less than 45 degrees.

- 7.2.8 Using suitable lifting equipment, lift lid from cask using care during handling operations to prevent damage to cask and lid seal surfaces.

7.2.9 Remove contents to disposal area.

NOTE: In the case of not having package designs with the optional drain line, radioactively contaminated liquids may be pumped out or removed by use of an absorbent material. Removal of any material from inside the cask shall be performed under the supervision of qualified health physics personnel with the necessary H.P. monitoring and radiological health safety precautions and safeguards.

7.2.10 Assemble package in accordance with loading procedure (7.1.8 through 7.1.16).

7.3 Preparation of Empty Packages for Transport

The Model CNS 8-120B cask requires no special transport preparation when empty. Loading and unloading procedures outlined in this chapter shall be followed as applicable for empty packages.

NOTE: Each package user will be supplied with a complete detailed operating procedure for use with the package