NRC FORM 618
(6-86)
10 CFR 71

U.S. NUCLEAR REGULATORY COMMISSION

CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIALS PACKAGES

1.a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. PACKAGE IDENTIFICATION NUMBER	d. PAGE NUMBER	e. TOTAL NUMBER PAGES
9249	1	USA/9249/A	1	3

2. PREAMBLE

a. This certificate is issued to certify that the packaging and contents described in Item 5 below, meets the applicable safety standards set forth in Title 10, Code of Federal Regulations, Part 71, "Packaging and Transportation of Radioactive Material."

b. This certificate does not relieve the consignor from compliance with any requirement of the regulations of the U.S. Department of Transportation or other applicable regulatory agencies, including the government of any country through or into which the package will be transported.

3. THIS CERTIFICATE IS ISSUED ON THE BASIS OF A SAFETY ANALYSIS REPORT OF THE PACKAGE DESIGN OR APPLICATION

a. ISSUED TO (*Name and Address*)

Chem-Nuclear Systems, Inc.
140 Stoneridge Drive
Columbia, SC 29210

b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION

Chem-Nuclear Systems, Inc., application dated June 25, 1993.

c. DOCKET NUMBER

71-9249

4. CONDITIONS

This certificate is conditional upon fulfilling the requirements of 10 CFR Part 71, as applicable, and the conditions specified below.

5.

(a) Packaging

(1) Model No.: CNS 14-170, Series III

(2) Description

Steel encased, lead shielded cask for low specific activity material. The cask is a right circular cylinder 81-1/2 inches high by 81-1/2 inches in diameter. The cask cavity is 73-3/8 inches high by 75-1/2 inches in diameter. The cask side wall consists of a 3/8-inch thick inner steel shell, a 1-3/4 inch lead shell, and a 7/8-inch thick outer steel shell. The base is comprised of two, 2-inch thick steel plates welded together to form a 4-inch thick base which is integrally welded to the inner and outer steel shells of the side wall. A steel flange is welded to the inner and outer steel shells of the side wall at the top. The lid is comprised of two, 2-inch thick steel plates, which are stepped and welded together to mate with the steel flange. The cask closure is sealed by a Neoprene gasket located between the lid and steel flange, positive closure of the lid is accomplished by eight, 1-3/4 inch ratchet binders. The lid contains a centrally located shield plug comprised of two, 2-inch thick steel plates and one, 1-inch thick steel plate stepped and welded. The shield plug is sealed by a Neoprene gasket, and eight, 3/4-inch studs and nuts are used to provide positive closure. The packaging is constructed of A-516, Grade 70, carbon steel. The outer shell has a minimum yield strength of 46,000 psi. Tie-down is accomplished by four tie-down lugs welded to the cask body. There are four cask lifting lugs, three lid lifting lugs, and one shield plug lifting lug. The package gross weight is approximately 53,000 pounds.

5.(a)(3) Drawings

The Model No. CNS 14-170, Series III packaging is fabricated in accordance with Chem-Nuclear Systems, Inc., Drawing Nos.: C-110-D-0016, Sheets 1 and 2, Rev. 4; C-110-D-0017, Sheets 1 and 2, Rev. C; C-110-D-0018, Sheets 1 and 2, Rev. C; and C-110-D-0019, Rev. B.

(b) Contents

(1) Type and form of material

Process solids, either dewatered, solid or solidified, meeting the requirements for low specific activity material, in secondary containers.

(2) Maximum quantity of material per package

Greater than Type A quantity of radioactive material which may contain fissile material provided the fissile material does not exceed the limits in 10 CFR §71.53. The weight of the contents, and secondary containers shall not exceed 17,800 pounds. The internal decay heat load shall not exceed 7 watts.

6. (a) For any package containing water and/or organic substances which could radiolytically generate combustible gases, determination must be made by tests and measurements or by analysis of a representative package such that the following criteria are met over a period of time that is twice the expected shipment time:

(i) The hydrogen generated must be limited to a molar quantity that would be no more than 5% by volume (or equivalent limits for other inflammable gases) of the secondary container gas void if present at STP (i.e., no more than 0.063 g-moles/ft3 at 14.7 psia and 70°F); or

(ii) The secondary container and cask cavity must be inerted with a diluent to assure that oxygen must be limited to 5% by volume in those portions of the package which could have hydrogen greater than 5%.

For any package delivered to a carrier for transport, the secondary container must be prepared for shipment in the same manner in which determination for gas generation is made. Shipment period begins when the package is prepared (sealed) and must be completed within twice the expected shipment time.

(b) For any package shipped within 10 days of preparation, or within 10 days after venting of drums or other secondary containers, the determination in (a) above need not be made, and the time restriction in (a) above does not apply.

7. In addition to the requirements of Subpart G of 10 CFR Part 71:

   (a) Prior to each shipment, the packaging lid seals, if opened (or if security seal is broken), must be inspected. The seals must be replaced with new seals if inspection shows any defects or every 12 months, whichever occurs first.

   (b) Each package must meet the Acceptance Tests and Maintenance Program in Chapter 7.0 of the application.

   (c) The package shall be prepared for shipment and operated in accordance with the Operating Procedures in Chapter 6.0 of the application.

8. Torque requirements for closure fasteners:

   (a) Primary lid ratchet binders must be torqued to 175-200 ft-lbs.

   (b) Secondary lid bolts must be torqued to 120 ± 10 ft-lbs.

9. The package authorized by this certificate must be transported on a motor vehicle, railroad car, aircraft, inland watercraft, or hold or deck of a seagoing vessel assigned for the sole use of the licensee.

10. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR §71.12.

11. Expiration date: July 31, 1998.

REFERENCES

Chem-Nuclear Systems, Inc., application dated June 25, 1993.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Nancy L. Osgood for

Cass R. Chappell, Section Leader
Cask Certification Section
Storage and Transport Systems Branch
Division of Industrial and
Medical Nuclear Safety, NMSS

Date: AUG 06 1993

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

APPROVAL RECORD

Model No. CNS 14-170, Series III
Certificate of Compliance No. 9249
Revision No. 1

By application dated June 25, 1993, Chem-Nuclear Systems, Inc., requested renewal of Certificate of Compliance No. 9249 for the Model Nos. CNS 14-170 Series III package. No design changes were requested to the package.

In support of the request, Chem-Nuclear submitted a consolidated application. A review of the consolidated application confirmed that all appropriate information has been incorporated in the safety analysis report. Sections on operating procedures, maintenance programs and acceptance tests were reviewed and found to be adequate.

The applicant revised Drawing No. C-110-D-0016, Rev. 4 to update the Certificate of Compliance number shown on the package.

The certificate has been renewed for a five year term which expires on July 31, 1998.

Nancy L. Osgood for

Cass R. Chappell, Section Leader
Cask Certification Section
Storage and Transport Systems Branch
Division of Industrial and
Medical Nuclear Safety, NMSS