NRC FORM 618
(9-88)
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
9222	3	USA/9222/A	1	4

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*)

Scientific Ecology Group, Inc.
1560 Bear Creek Road
Oak Ridge, TN 37831-2530

b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION

Hittman Nuclear application dated December 14, 1987, as supplemented.

c. DOCKET NUMBER 71-9222

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.: 14-215

(2) Description

Steel encased lead shielded cask for low specific activity material. The cask is a right circular cylinder with a 77.25-inch ID by 80.25-inch IH cavity. The outside diameter of the cask is 83.5 inches with a 92.25-inch height. The walls of the cask contain a lead thickness of 1.88 inches encased in 0.38-inch thick inner steel shell and 0.88-inch thick outer steel shell. The top cover and cask bottom are made up of two steel plates with thickness of 2.0 inches. The primary cask lid is secured to the cylindrical cask body by eight, 1-1/4-inch rachet binders. A secondary lid is centered in the primary lid and is secured to the primary lid with eight, 3/4-inch studs and nuts. Each lid is provided with a Neoprene gasket seal. The cask is provided with a 12-gauge stainless steel liner (seal welded along all edges), a lid vent line with pipe plug, and a 3/4-inch drain line and pipe plug. The cask is provided with four equally spaced lifting/tie-down devices. The primary lid is provided with three lifting lugs and the secondary lid is provided with one lifting lug. The cask gross weight is 58,400 pounds.

(3) Drawings

The package is fabricated in accordance with Scientific Ecology Group, Inc. Drawing No. STD-02-077, Sheets 1 and 2, Rev. 10.

The optional shield inserts are fabricated in accordance with Scientific Ecology Group, Inc. Drawing No. STD-02-086, Rev. 0.

5. b) Contents

(1) Type and form of material

(i) Dewatered, solids, or solidified waste, meeting the requirements for low specific activity materia. in secondary containers; or

(ii) Activated solid components 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 that the fissile material does not exceed the limits in 10 CFR §71.18 and §71.22. The decay heat load is limited to 9 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/ft^3 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. Maximum gross weight of the contents, secondary containers, shield inserts and shoring is limited to 20,000 pounds.

8. Except for close fitting contents, shoring must be placed between secondary containers and the cask cavity to minimize movement during normal conditions of transport.

9. The lid and shield plug lifting lugs must not be used for lifting the cask, and must be covered in transit.

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

    (a) Prior to each shipment, the packaging Neoprene lid seals must be inspected. The seals must be replaced within twelve (12) months prior to shipment. Also, seals must be replaced with new seals if inspection shows any defects. Cavity drain and vent lines must be sealed with appropriate sealant applied to the pipe plug threads.

    (b) The package shall be prepared for shipment and operated in accordance with the Operating Procedures of Section 7.0 of the application and Scientific Ecology Group, Inc. supplement dated May 16, 1998.

    (c) Each cask must meet the Acceptance Tests and Maintenance Program of Section 8.0 of the application. In addition, the cask must be leak tested within twelve (12) months prior to shipment and each seal must be leak tested after replacement in accordance with Paragraph 8.1.3 of the application.

11. The cask body and each lid must be marked in accordance with 10 CFR §71.85(c).

12. The packages 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.

13. Optional shield inserts may be used as needed. The optional shield inserts must be fabricated in accordance with Scientific Ecology Group, Inc., Drawing No. STD-02-086, Revision 0.

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

15. Expiration date: March 31, 1999.

REFERENCES

Hittman Nuclear application dated December 14, 1987.

Hittman Nuclear supplements dated: January 26, March 25, and June 10, 1988.

Scientific Ecology Group, Inc. supplements dated: April 3 and May 16, 1990; January 26, June 10, and October 4, 1993; and February 3, February 25, and March 2, 1994.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Cass R. Chappell

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

Date: MAR 23 1994

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

APPROVAL RECORD

Model No. 14-215
Certificate of Compliance No. 9222
Revision No. 3

By application dated January 26, 1993, as supplemented June 10 and October 4, 1993, and February 3, February 25, and March 2, 1994, Scientific Ecology Group, Inc. requested renewal of, and an amendment to, Certificate of Compliance No. 9222. Minor changes were requested in the Model No. 14-215 shipping container.

The width of the primary lid gasket was reduced at the vent port passage to eliminate interference with the leak test procedure. Section 8.2 of the Safety Analysis Report and the certificate were revised to require leak testing of a gasket seal after each replacement.

The ratchet binder specification was revised to allow the optional use of Acme type threaded screws. The material of the Acme type threaded screw is specified to assure no reduction in load capacity. Also, the engagement length with the upper block was increased to 8-1/2 inches when the Acme type threaded screw is used.

The certificate of compliance was revised to specify that the annual seal replacement and testing must occur within 12 months prior to shipment rather than routinely every 12 months.

The changes do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Cass R. Chappell

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

MAR 23 1994

Date:_____