

**CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIAL PACKAGES**

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2. PREAMBLE

- a. This certificate is issued to certify that the package (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

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| a. ISSUED TO (Name and Address)
NUKEM Corporation
3800 Fernandina Road, Suite 200
Columbia, SC 29210-3854 | b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION
Scientific Ecology Group, Inc., application
dated December 27, 1990, as supplemented |
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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.: 3-82B

(2) Description

The packaging consists of a steel-lead-steel annulus cask fabricated in the form of a right circular cylinder and three different types of inner containers. The shielded cask, closed at one end and a lid closure at the other, is 66.25-inches in diameter by 74.5-inches in height. The cask wall consists of a 3/8-inch inner steel shell, 3-3/4-inches of lead shielding, one-inch outer steel shell, and a steel flange connecting the two shells. The cask outer shell is surrounded by a one-inch layer of insulating material and canned in 11-gauge steel.

The lid, sealed by a silicone flat gasket, is bolted to the cask body. A cylindrical shield plug is located in the center of the cask lid and is sealed by a silicone flat gasket. Lifting and tie-down devices are attached to the cask body. Impact skirts, consisting of removable rings of shock absorbing foam, are attached to the ends of the cask.

(3) Drawings

The package is fabricated in accordance with the following RWE NUKEM Corporation Drawing No.: STD-02-076, Sheets 1 through 3, Revision 8.

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5. (b) Contents

(1) Type and form of material

Byproduct material consisting of dewatered, solid radioactive waste, including spent ion exchange resins, filter sludges, solidified evaporator concentrates, spent filter cartridges, and contaminated or irradiated solid materials.

(2) Maximum quantity of material per package

Greater than Type A quantity of byproduct material, which may contain not more than a Type A quantity of fissile material, provided the fissile material does not exceed the limits specified in 10 CFR 71.15. The cask contents must be contained within one of the following inner containers and limited as follows:

- (a) Single disposable cylindrical containers constructed of metal or high integrity plastic with tightly fitted covers. A maximum decay heat load of 205 Btu/hr.
- (b) Two pallets with four, 30-gallon drum size containers per pallet. Drums to be constructed of metal or high integrity plastic with a tightly fitted cover. A maximum decay heat load of 84 Btu/hr.
- (c) One pallet with three, 55-gallon drum size containers. Drums to be constructed of metal or high integrity plastic with tightly fitted covers. A maximum decay heat load of 116 Btu/hr.

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 a hydrogen concentration 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.

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6. (b) For any package containing materials with radioactivity concentration not exceeding that for low specific activity material, and 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. The total weight of the package must not exceed 50,000 pounds and the weight of the contents (including dunnage, etc.) must not exceed 8,195 pounds.
8. In addition to the requirements of Subpart G of 10 CFR Part 71:
- (a) The package shall be prepared for shipment and operated in accordance with Section 7.0 of the application, as supplemented.
- (b) The package shall be maintained in accordance with the maintenance program in the supplement dated March 13, 1991.
9. Except for close fitting contents, sufficient dunnage, shoring, and/or bracing must be utilized to minimize secondary impact of the contents within the cavity under accident conditions of transport.
10. Prior to each shipment, the seal on the main cover and the seal on the shield plug cover, if opened, or if the security seal is broken, must be inspected. The seals must be replaced if the inspection shows any visible defects or every 12 months, whichever occurs first.
11. The packaging must be leak tested in accordance with Section 8.2.2 of the application. For contents that meet the definition of low specific activity material or surface contaminated objects in 10 CFR 71.4, and also meet the exemption standard for low specific activity material and surface contaminated objects in 10 CFR 71.14(b)(3)(i), the pre-shipment leak test is not required.
12. The package authorized by this certificate is hereby approved for use under the general provisions of 10 CFR 71.17.
13. Revision No. 31 of this certificate may be used until September 30, 2007.
14. Expiration date: October 1, 2008. This certificate is not renewable.

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REFERENCES

Scientific Ecology Group Incorporated application dated December 27, 1990.

Supplements dated: March 13, 1991; March 7, 1996; and October 10, 1997.

ATG Nuclear Services, LLC, supplements dated: December 1, 1998; August 9 and 11, 1999.

ATG, Inc. supplements dated March 29, 2001; and May 10, 2001.

RWE NUKEM Corporation supplements dated May 8, 2003, May 13, 2005, and March 28, 2006.

NUKEM Corporation supplement dated September 6, 2006.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/RA/

Robert A. Nelson, Chief
Licensing Section
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Date: September 27, 2006