Form NRC-618
(12-73)
10 CFR 71

U.S. NUCLEAR REGULATORY COMMISSION

CERTIFICATE OF COMPLIANCE

For Radioactive Materials Packages

1.(a) Certificate Number	1.(b) Revision No.	1.(c) Package Identification No.	1.(d) Pages No.	1.(e) Total No. Pages
9070	5	USA/9070/B( )F	1	3

2. PREAMBLE

2.(a) This certificate is issued to satisfy Sections 173.393a, 173.394, 173.395, and 173.396 of the Department of Transportation Hazardous Materials Regulations (49 CFR 170-189 and 14 CFR 103) and Sections 146–19–10a and 146–19–100 of the Department of Transportation Dangerous Cargoes Regulations (46 CFR 146–149), as amended.

2.(b) The packaging and contents described in item 5 below, meets the safety standards set forth in Subpart C of Title 10, Code of Federal Regulations, Part 71, "Packaging of Radioactive Materials for Transport and Transportation of Radioactive Material Under Certain Conditions."

2.(c) 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–

3.(a) Prepared by *(Name and address)*:

Nuclear Packaging, Inc.
815 South 28th Street
Tacoma, WA 98409

3.(b) Title and identification of report or application:

Nuclear Packaging, Incorporated
application dated June 21, 1976,
as supplemented.

3.(c) Docket No. 71-9070

4. CONDITIONS

This certificate is conditional upon the fulfilling of the requirements of Subpart D of 10 CFR 71, as applicable, and the conditions specified in item 5 below.

5. Description of Packaging and Authorized Contents, Model Number, Fissile Class, Other Conditions, and References:

(a) Packaging

(1) Model No.: N-55

(2) Description

A low carbon steel overpack filled with rigid polyurethane foam. The containment vessel is a 55-gallon drum, meeting the requirements of DOT Specification 17H or 17C. The overpack is a right circular cylinder 48 inches high by 32 inches diameter with a 34-1/2-inch high by 24-inch diameter cavity. The 20-gage galvanized steel shell is filled with 3-pound per cubic foot rigid polyurethane foam. Closure of the upper and lower (lid and body) sections of the overpack is provided by four toggle clamps, and a neoprene gasket at the stepped joint between the two sections. Four rings are provided for lifting and tie-down. The package gross weight is approximately 750 pounds.

(3) Drawing

The packaging is constructed in accordance with Nuclear Packaging, Incorporated Drawing No. X-60-200D, Rev. C.

(b) Contents

(1) Type and form of material

(i) Radioactive material including fissile material in the form of dry solids contained in DOT Specification 17H or 17C drums. Liquids, powders and slurries are not permitted.

(ii) Tritium absorbed on metal backing as titanium tritide held within the container assembly shown in Lawrence Livermore Laboratory Drawing No. AAA-77-109723, Rev. B.

(iii) Dry, solid forms of plutonium and uranium.

(2) Maximum quantity of material per package

(i) For the contents described in 5(b)(1)(i) greater than Type A quantity radioactive material. Fissile material contents not to exceed the generally licensed mass limits as specified in 10 CFR §71.11 and plutonium in excess of twenty (20) curies per package must be in the form of metal, metal alloy or reactor fuel elements. Internal decay heat not to exceed 3 watts.

(ii) For the contents described in 5(b)(1)(ii) a maximum of six (6) container assemblies held within a DOT Specification 17H drum. Maximum activity not to exceed 30,000 curies per package. Internal decay heat not to exceed 1.08 watts per package.

(iii) For the contents described in 5(b)(1)(iii), 200 grams fissile plus fissile uranium provided the total Pu content does not exceed 200 grams, with a heat generation rate of 5 watts. The radioactive material shall be packaged within sealed metal cans or DOT Specification 2R containers (49 CFR §178.34); and placed within inner containers constructed as specified on Figures 1, 2, and 3, Appendix 1.10.1, of the application. Stainless steel tubing wall thicknesses may be increased a maximum of 50 mils. Prior to each shipment, a helium leak test shall be performed on both the inner and outer containment assemblies capable of detecting a leak no greater than 10^{-7} atm cc/sec at standard temperature and pressure. Following the gas leak testing, all inner container welds shall be leak tested using a liquid penetrant method in accordance with Article 6, Section V, ASME Code. No package with a detectable leak shall be delivered to a carrier for transport.

(3) Fissile Class — II

Minimum transport index to be shown on label — For the contents described in 5(b)(1)(iii):

Five (5)

6. The maximum weight of contents including drum not to exceed 550 pounds.

7. The drum must be securely positioned in the overpack.

8. Contents must be securely positioned so that protrusions will not puncture the drum under normal or accident conditions.

9. The packaging authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR §71.12(b).

10. Expiration date: May 31, 1982.

REFERENCES

Nuclear Packaging, Incorporated Safety Analysis Report dated June 21, 2976.

Supplements dated: February 4, April 4, and May 6, 1977; October 10, 1980; and March 30, 1981.

For The Contents Described In 5(b)(1)(ii) ard Limited In 5(b)(2)(ii):

Lawrence Livermore Laboratory application dated March 28, 1978.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Charles E. MacDonald, Chief
Transportation Certification Branch
Division of Fuel Cycle and
Material Safety

Date: APR 30 1981