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
9017	2	USA/9017/B( )	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)*:

Department of the Navy
Naval Support Force Antarctica
FPO San Francisco, CA 96601

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

Department of the Navy application dated May 3, 1983.

3.(c) Docket No. 71-9017

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.: SNAP-23A Model No. 1000

(2) Description

A radioisotopic power generator, consisting of an encapsulated fuel source confined within a uranium-8 w/o molybdenum shielded, metal inner container which is positioned in an insulated outer container and the entire assembly house within a protective overpack

The contents are positioned within a U-8 w/o Mo by an upper and lower metal jacket. The upper stainless steel jacket and the lower Inconel-718 jacket are bolted together. A thin lining of copper between the lower jacket and the shield serves as an accumulator while the upper jacket is copper filled. The heat source assembly is in the shape of a bottle, with the upper jacket being the "neck" of the bottle.

8306150240 830603
PDR ADOCK 07109017
C PDR

5. (a) Packaging (continued)

(2) Description (continued)

The heat source assembly is positioned within a protective metal cover with a radiator mounted inside of the perforated upper portion of the cover. The assembly is supported by hollow tube struts and the space between the cover and assembly is filled with Min-K 2002, thermal insulation. The protective cover is placed in a shipping container for transport. The container consists of a steel upper and lower portion, crushable material, an air bag suspension system, and a lifting device on the top. The weight of the generator and shipping container is approximately 1,800 pounds.

(3) Drawings

The packaging is constructed in accordance with Hittman Nuclear and Development Corporation Drawing Nos.:

HN-602-100-1, Rev. 0
HN-602-100-2, Rev. 0
HN-602-100-3, Rev. 0
HN-602-100-4, Rev. 0
HN-602-100-5, Rev. 0
HN-602-100-6, Rev. 0
HN-602-100-7, Rev. 0
HN-602-100-8, Rev. A
HN-602-100-9, Rev. A
HN-602-300-2, Rev. 0
HN-602-300-3, Rev. 0
HN-602-300-4, Rev. 0
HN-602-300-5, Rev. 0

and Westinghouse Astronuclear Laboratory Drawing No.:

940J032, Rev. I.

(b) Contents

(1) Type and form of material

Strontium-90 titanate, doubly encapsulated within a 0.065 inch thick liner of Hastelloy-C, which in turn is encapsulated inside a 0.4 inch thick Hastelloy-C capsule.

(2) Maximum quantity of material per package

165,000 curies and 1100 thermal watts.

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

7. Expiration date: June 30, 1988.

REFERENCE

Department of the Navy application dated May 3, 1983.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

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

Date: JUN 03 1983

U.S. Nuclear Regulatory Commission
Transportation Certification Branch
Approval Record
Model No. SNAP-23A Model No. 1000 Packaging
Docket No. 71-9017

By application dated May 3, 1983, the U.S. Department of the Navy requested renewal of Certificate of Compliance No. 9017. No changes have been authorized to the package design since approval of Revision No. 1 to the certificate which was dated March 29, 1977.

The staff concludes that the statements of the application satisfy the requirement for renewal of the Certificate of Compliance.

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

Date: JUN 03 1983