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

U.S. NUCLEAR REGULATORY COMMISSION CERTIFICATE OF COMPLIANCE

For Radioactive Materials Packages

and the second se		3	1.(c)	Package Identifica USA/5930/B)F	1.(d) Pages No.	1.(e) Total No. P.a. 4
2. PREAMBL	E						
2.(a)	This certificate is issued to satisfy Sections 173.393a, 173.394, 173.395, and 173.396 of the Department of Transportation Hazardou 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 con ents 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 certifi	icate is issued on the basis	of a safety analysis report	of the paci	kage design or appl	cation-		
3.(a) Prepared by (Name and address):			3.(b) Title and identification of report or application:				
General Electric Company P. O. Box 460 Pleasanton, California 94566			General Electric Company application received January 13, 1969, as supplemented.				
	and the second	3.(c)	Docket	No. 71-5980)		

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

- (a) Packaging
 - (1) Model No.: GE-600
 - (2) Description

A steel-encased lead shielded shipping cask. The basic cask body is a cylinder 34 inches in diameter by 60 inches high formed by two concentric steel shells whose annular region is filled with 6 inches of lead. The cavity is 20-1/2 inches ID by 46 inches high, 3/d-inch thick stainless steel cylinder. A recessed plug-type cask lid, consisting of a steel weldment filled with lead, is secured to the cask body by six, 1-inch diameter steel bolts. A silicone rubber gasket provides the seal. A protective jacket consisting of a double-walled structure of 1/2-inch thick carbon steel plates is placed over the cask and bolted to a steel pallet by eight, 2-inch diameter steel bolts. The cask has one 1/2-inch diameter drain line from the cavity to the outer shell. The drain line is closed with a plug which has a melting temperature of 200°F. The cask is shipped in the upright position. The total weight of the package is approximately 18,500 pounds then loaded.

1274 206

7911080 266

Page 2 - Certificate No. 5980 - Revision No. 3 - Docket No. 71-5980

5. (a) Packaging (continued)

. . .

(3) Drawings

The packaging is constructed in accordance with the following General Electric Co. Drawings Nos.:

GE Drawing No.

Title

212E247, Rev. 3 106D389E, Rev. 1 211A7528, Rev. 0 144F650, Rev. 0 693C293, Rev. 2 161F470, Rev. 1 T06D3892, Rev. 1 600 Series Shipping Cask 600 Series Cask Ass'y. Name Plate Cask Line Liner Jacket Base

(b) Contents

- Type and form of material
 - (i) Byproduct material and irradiated special nuclear material in solid or solid oxide form, but specifically not loose powders. Contents are to be clad, encapsulated or contained in a metal encasement of such material as to withstand the combined effects of the internal heat load and the 1475°F fire with the closure pre-tested for leak tightness.
 - (ii) Neutron sources in special form.
- (2) Maximum quantity of material per package

Plutonium in excess of twenty (20) curies per package must be in the form of metal, metal alloy or reactor fuel elements, and

 (i) For the contents described in 5.(b)(1)(i) the maximum decay heat not to exceed 600 watts and the fissile content not to exceed 500 grams of U-235, 300 grams U-233, 300 grams Pu, or a prorated quantity of each such that the sum of the ratios does not exceed unity; or

not to exceed 1200 grams fissile provided: (1) the fissile material is contained in schedule waste liners constructed of 5-inch schedule 40 pipe with a maximum inside length of 39-5/15 inches, (2) no more than four such liners are shipped at one time, (3) each liner contains no more than 300 grams fissile, and (4) the cask is provided with a positioning lattice to maintain separation between the liners.

1274 207

Page 3 - Certificate No. 5980 - Revision No. 3 - Docket No. 71-5980

- 5. (b) Contents (continued)
 - (2) Maximum quantity of material per package (continued)
 - (ii) For the contents described in 5(b)(1)(ii) the maximum decay heat not to exceed 50 watts and not more than 500 grams U-235 equivalent mass. The external data more than 500 grams U-235 at 3 feet from the surface of a dry package.
 - (c) Fissile Class

III

Maximum number of package per shipment

Two (2)

6. The U-235 equivalent mass shall be determined by the following method:

U-235 equivalent mass equals U-235 mass plus 1.66 times U-233 mass plus 1.66 times Pu mass.

- Except for the neutron sources in special form (10 CFR §71.4(o)), the package contents shall be cry and the fissile material unmoderated (H to X atomic ratio less than 2).
- d. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR §71.12(b).
- 9. Expiration date: January 31, 1980.

REFERENCES

General Electric Company's application received January 13, 1969.

Supplements dated: February 12 and March 10, 1969; and May 21, 1974.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

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

Uate: OCT 3 1 1979

1274 208