

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIAL PACKAGES**

1. a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
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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

- a. ISSUED TO (*Name and Address*)
- b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION

General Electric Company  
P.O. Box 460, Vallecitos Road  
Pleasanton, CA 94566

General Electric Company application  
dated November 19, 1992, as supplemented.

## 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.: 1500

(2) Description

A steel encased lead shielded shipping cask. The cask is double-walled steel circular cylinder, approximately 30 1/4-inch diameter by 48 1/2 inches high with a central cavity approximately 7-inch diameter by 25 inches high. The diameter is reduced from 30 1/4 inches to 17 1/2 inches by cone construction at the top 7 inches of the cask. Approximately 11 inches of lead surround the central cavity. The cask is equipped with a cavity drain line and lifting device. Closure is accomplished by a gasketed and bolted steel lead-filled plug. A protective jacket consisting of an upright circular cylinder with open bottom and a protruding box section diametrically across the top and vertically down the sides attaches to a square pallet. Dimensions of the protective jacket are approximately 60 7/8 inches high by 50 inches wide across the box section. The outer cylindrical diameter is 36 1/2 inches and the pallet is 59 1/2 inches square. The maximum weight of the packaging is approximately 15,500 pounds.

(3) Drawings

- (i) The packaging is constructed in accordance with General Electric Company Drawing Nos. 129D4748, Rev. 7; 129D4749, Rev. 5; and 129D4750, Rev. 9.
- (ii) An optional canister insert is constructed in accordance with the following Chem-Nuclear Systems, Incorporated Drawing Nos.:

C-110-D-48019-001, Rev. D; and C-110-A-48019-002, Rev. C.

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## 5.(b) Contents

## (1) Type and form of material

- (i) Byproduct material and special nuclear material meeting the requirements of special form radioactive material and antimony pins encased in stainless steel, or
- (ii) Byproduct material as  $^{90}\text{SrF}_2$  or  $^{137}\text{CsCl}$  capsules meeting Condition No. 6, below, or
- (iii) Solid nonfissile irradiated metal hardware and reactor control rods (blades), or
- (iv) Stainless steel encapsulated solid metal Co-60 sources, or
- (v) Byproduct material as  $^{137}\text{CsCl}$  capsules meeting Condition No. 7, below.

## (2) Maximum quantity of material per package

Not to exceed a decay heat generation of 3,120 watts and

## (i) Item 5(b)(1)(i) above:

500 grams U-235 equivalent mass. (U-235 equivalent mass equals U-235 mass plus 1.66 times Pu mass). Plutonium in excess of 20 curies per package must be in the form of metal, metal alloy or reactor fuel elements.

## (ii) Item 5(b)(1)(ii) above:

458,000 curies.

## (iii) Item 5(b)(1)(iv) above:

200,000 curies.

## (iv) Item 5(b)(1)(v) above:

157,000 curies.

## (c) Maximum Transport Index for Criticality Control

For contents described in 5(b)(1)(i)  
and limited in 5(b)(2)(i):

Minimum transport index to be shown on  
label for nuclear criticality control:

5.7

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6. For the contents described in 5(b)(1)(ii): The  $^{90}\text{SrF}_2$  capsules must be in accordance with Vitro Drawing Nos. H-2-66759, Rev. 0; and H-2-66758, Rev. 0. The  $^{137}\text{CsCl}$  capsules must be in accordance with Vitro Drawing Nos. H-2-66760, Rev. 0; and H-2-66761, Rev. 0. After fabrication, the  $^{90}\text{SrF}_2$  and  $^{137}\text{CsCl}$  capsules must be leak tested using a method having sufficient sensitivity to detect a leak rate of  $10^{-8}$  atm cc/sec. Any capsule with a detectable leak may not be delivered to a carrier for transport.
7. For the contents described in 5(b)(1)(v): The  $^{137}\text{CsCl}$  capsules must be contained in the canister insert described in item 5(a)(3)(ii), above. The  $^{137}\text{CsCl}$  capsules must be constructed and tested in accordance with Section 1.2.3 of the Chem-Nuclear Systems, Incorporated supplement dated March 1, 1993. The canister insert must be operated, tested, and maintained in accordance with Chapters 7 and 8 of the Chem-Nuclear Systems, Incorporated supplement dated March 1, 1993. The shipment period must be completed within 30 days following the placement of the canister lid on the canister insert.
8. In addition to the requirements of Subpart G of 10 CFR Part 71:
  - (a) Except for packaging Serial Number 1506, the package must be prepared for shipment, operated, and maintained in accordance with the "Shipping Package Assembly/Disassembly" sections of the application, as supplemented.
  - (b) The silicone rubber lid gaskets must be replaced within the 12-month period preceding each shipment. Prior to each shipment the silicone rubber lid gaskets must be inspected. The silicone rubber gaskets must be replaced if inspection shows any defects. Cavity drain line must be sealed with appropriate sealant applied to threads of pipe plug.
  - (c) Packaging Serial Number 1506 must be prepared for shipment, operated, and maintained in accordance with Neutron Products, Inc., supplement dated October 10, 2002.
  - (d) Packaging Serial Number 1506 must be bubble tested within the 12-month period preceding each shipment, and after each third use. The bubble test must be performed in accordance with Neutron Products, Inc., supplement dated October 10, 2002.
9. Except for packaging Serial Number 1506, the package may only be dry loaded and unloaded; loading or unloading under water is not authorized.
10. The package authorized by this certificate is hereby approved for use under the general license provision of 10 CFR 71.12.
11. Expiration date: October 31, 2003.

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**REFERENCES**

General Electric Company application dated November 19, 1992.

General Electric Company supplements dated December 12, 1997, August 13, 1998, and August 27 and September 27, 2001.

Chem-Nuclear Systems, Inc., supplement dated March 1, 1993.

Neutron Products, Inc., supplements dated February 1 and October 10, 2002.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/RA/  
John D. Monninger, Chief  
Licensing Section  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

Date: November 13, 2002.