

U.S. NUCLEAR REGULATORY COMMISSION
CERTIFICATE OF COMPLIANCE
For Radioactive Materials Packages

1.(a) Certificate Number 5942	1.(b) Revision No. 5	1.(c) Package Identification No. USA/5942/B()F	1.(d) Pages No. 1	1.(e) Total No. Pages 4
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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):
General Electric Company
P.O. Box 460
Pleasanton, CA 94566
- 3.(b) Title and identification of report or application:
General Electric Application dated March 18, 1980,
as supplemented.
- 3.(c) Docket No. 71-5942

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.: GE-700
- (2) Description

A steel encased lead shielded shipping cask enclosed by a double-walled protective jacket of the same shape with a rectangular baseplate. The cask is a double-walled steel circular cylinder, 37-inch-diameter by 65-inch high with a central cavity 15-inch-diameter by 40-inch high. Approximately 10.25 inches of lead surround the central cavity. The cask is equipped with a cavity drain line, pressure relief valve set at 100 psig, and lifting device. Closure is accomplished by a silicone rubber gasketed and bolted steel lead filled plug. The maximum gross weight of the package (contents, cask assembly, protective jacket and base) is 35,500 pounds.

The cask may be modified with a 14-inch high cavity extension with an additional silicone rubber gasket. The modified cask is 79 inches high. The maximum gross weight of the package (contents, modified cask assembly, protective jacket and base) is 40,200 pounds.

5. (a) (3) Drawings

The packaging is constructed in accordance with the following General Electric Company Drawing Nos.: 129D4768, Rev. 3; 129D4769, Rev. 4; and 129D4770, Rev. 4.

Lifting and/or tie-down devices which are a structural part of the package must be in accordance with the above drawings.

(b) Contents

(1) Type and form of material

Byproduct, source, and special nuclear material contained in solid or metal oxide form.

(2) Maximum quantity of material per package

Not to exceed 700 pounds (including shoring), and

- (i) 740 gm U-235, provided that the maximum U-235 enrichment does not exceed 6 weight percent; or
- (ii) 1,200 gm U-235, provided that the fuel material is in the form of MTR-type fuel elements with a minimum active fuel length of 23 inches; or
- (iii) 220 gm fissile material; or
- (iv) 1,650 gm U-235, provided that the maximum U-235 enrichment does not exceed 3.5 weight percent and the fuel material is in the form of 88 rods loaded with 0.376-inch-diameter pellets with a minimum active fuel length of 37 inches; or
- (v) those values presented in Figure 1, UO₂ Weight Limits for Model 700 Shipping Container, of Exhibit A to this application, applicable to fuel material in the form of rods with a minimum pellet diameter of 0.40 inch; or
- (vi) 5,100 gm U-235, provided the fuel is in the form of ETR-type fuel elements (GETR Fuel) with each element containing no more than 510 gm U-235 and inserted in the spaced stainless steel fuel shipping basket described in GE Drawing No. 106D4150, Rev. 0.; or

5. (b) (2)(vii) 6,200 gm U-235, provided the fuel is in the form of MURR TRTR type elements containing not more than 775 gm U-235 per element; loaded and spaced in the stainless steel fuel shipping basket as described in MURR Drawing No. 1228, Sheets 1 thru 5, Revision 0. Fuel elements shall have at least 150 days cooling time since last reactor operation.

(3) Maximum quantity of radioactive decay heat per package

(i) 6,500 watts for dry shipments, or

(ii) 1,500 watts for wet shipments, provided that the cavity shall contain at least a 1,000 cu in air void (at standard temperature and pressure) at the time of delivery to a carrier for transport.

(c) Fissile Class

III

Maximum number of packages per shipment

2

6. The radioactive material must be in the form of fuel rods, or plates, fuel assemblies, or meeting special form requirements of 10 CFR §71.4(o).
7. Shoring must be provided to minimize movement of contents during accident conditions of transport.
8. Prior to each shipment the silicone rubber lid gasket(s) must be inspected. This gasket(s) must be replaced if inspection shows any defects or every twelve (12) months, whichever occurs first. Cavity drain line must be sealed with appropriate sealant applied to threads of pipe plug.
9. The applicant must confirm annually that the pressure relief valve is operable at 100 psig.
10. When needed, sufficient antifreeze in the cask shall be used to prevent damage of any component of the package due to freezing.
11. The total radioactivity in the coolant shall not exceed the limits specified in 10 CFR §71.36(a)(2).
12. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR §71.12(b).
13. Expiration date: June 30, 1985.

REFERENCES

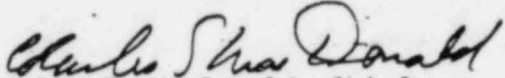
General Electric application dated March 18, 1980.

Supplement dated: August 10, 1982.

University of Missouri letter dated March 20, 1980.

Appendix 6-A regarding University of Missouri's quality assurance program is not considered part of this application.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

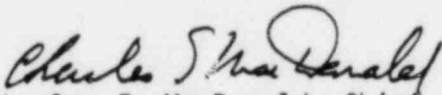

Charles E. MacDonald, Chief
Transportation Certification Branch
Division of Fuel Cycle and
Material Safety

Date: AUG 25 1982

U.S. Nuclear Regulatory Commission
Transportation Certification Branch
Approval Record
Model No. GE-700 Packaging
Docket No. 71-5942

By application dated June 22, 1982, General Electric Company requested the Certificate of Compliance be amended to replace the existing drawings with three new packaging drawings. The new drawings consolidated the information shown on the existing drawings by showing only those features pertinent to safety such as overall dimensions, material thicknesses, shielding thickness, size and location of welds, fasteners, and materials of construction. The new drawings show the as-built conditions of the packages and corrections to component weights. The dimensional differences between packagings is accommodated by a tolerance of ± 0.50 inches. The weight differences between packages is accommodated by a tolerance of $\pm 2\frac{1}{2}\%$. Due to the increase in weight of the packaging, the applicant re-analyzed the packaging using the same method of analysis discussed in the application of March 18, 1980 as referenced by the certificate and determined that the packaging did not require structural changes to accommodate the increase in weight.

The certificate has been conditioned to limit the gross weight of the package with a second condition limiting the weight of the contents and shoring. The packaging drawings were reviewed and a determination made that all features of the package remained as previously shown and all information important to safety such as, material thickness, material specification, weld size and location, etc., is shown on the new set of drawings.


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

Date: AUG 25 1982