

CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIALS PACKAGES

U.S. NUCLEAR REGULATORY COMMISSION

1. a. CERTIFICATE NUMBER 9033	b. REVISION NUMBER 11	c. PACKAGE IDENTIFICATION NUMBER USA/9033/B(U)	d. PAGE NUMBER 1	e. TOTAL NUMBER PAGES 2
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## 2. PREAMBLE

- a. This certificate is issued to certify that the 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)

Amersham Corporation  
40 North Avenue  
Burlington, MA 01803

b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION:

Amersham Corporation application dated  
September 24, 1993, as supplemented.

c. DOCKET NUMBER

71-9033

## 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.: 660, 660E, 660A, 660AE, 660B or 660BE

## (2) Description

A steel encased uranium shielded Gamma Ray Projector. Primary components consist of an outer steel shell, polyurethane potting material, uranium shield, "S" tube, and end plugs. The contents are securely positioned in the "S" tube by a source cable locking device and shipping plug. Tamper-proof seals are provided on the packaging. The maximum total weight of the package is approximately 53 pounds.

## (3) Drawings

The packaging is constructed in accordance with the following Technical Operations, Inc. Drawings:

- (i) Model No. 660B - Drawing No. 66025, Sheets 1, 2 and 3, Rev. F;
- (ii) Model No. 660 - Drawing No. 66025, Sheets 1, 2, 3, and 4, Rev. B; or Drawing No. 66030, Sheets 1, 2, 3 and 4, Rev. -;
- (iii) Model No. 660A - Drawing No. 66030, Sheets 1, 2 and 3, Rev. A; or Drawing No. 66030, Sheets 1, 2, and 3, Rev. D.

Model Nos. with an E suffix have an electrical circuit.

## (b) Contents

## (1) Type and form of material

Iridium-192 sources which meet the requirements of special form radioactive material.

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5. (b) Contents (continued)

(2) Maximum quantity of material per package

(i) 140 Curies for the Model No. 660B or 660BE package.

(ii) 120 Curies for the Model No. 660, 660E, 660A or 660AE package.

6. The source shall be secured in the shielded position of the packaging by the source assembly. The source assembly must be fabricated of materials capable of resisting a 1475 °F fire environment for one-half hour and maintaining their positioning function. The source assembly must engage the locking device. The source assembly must be of sufficient length and diameter to provide positive positioning of the source within the depleted uranium shield assembly.
7. The name plate must be fabricated of materials capable of resisting the fire test of 10 CFR Part 71 and maintaining its legibility.
8. In addition to the requirements of Subpart G of 10 CFR Part 71:
- (a) The package must meet the Acceptance Test and Maintenance Program of Chapter 8.0 of the application, as supplemented; and
- (b) The package shall be prepared for shipment in accordance with the Operating Procedures in Chapter 7.0 of the application, as supplemented.
9. The package authorized by this certificate is hereby approved for use under general license provisions of 10 CFR §71.12.
10. Expiration date: October 31, 2000.

REFERENCES

Amersham Corporation application dated September 24, 1993.

Supplement dated: March 31, 1994; June 28, 1995.

Nordion International Inc. supplement dated August 19, 1996.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

*Cass R. Chappell*

Cass R. Chappell, Chief  
Package Certification Section  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

OCT 09 1996

Date: \_\_\_\_\_



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

APPROVAL RECORD  
Model No. 660 Series Packages  
Certificate of Compliance No. 9033  
Revision No. 11

By application dated August 19, 1996, Nordion International Inc. requested an amendment to Certificate of Compliance No. 9033, for the Model No. 660 series packages. The applicant requested that the certificate be revised to include the Nordion Model C-337 source assembly, or alternately, that generic source assemblies be authorized.

The certificate is being revised to delete reference to specific source assembly models. All other conditions in the certificate, including the criteria for source assemblies, remain in effect.

The changes to the certificate do not affect the ability of the packages to meet the requirements of 10 CFR Part 71.

*Cass R. Chappell*

Cass R. Chappell, Chief  
Package Certification Section  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

OCT 09 1996

Date \_\_\_\_\_