



U.S. Department  
of Transportation

Pipeline and  
Hazardous Materials  
Safety Administration

COMPETENT AUTHORITY CERTIFICATION  
FOR A TYPE B(U)  
RADIOACTIVE MATERIALS PACKAGE DESIGN  
CERTIFICATE USA/9148/B(U)-96, REVISION 9

East Building, PHH-23  
1200 New Jersey Avenue SE  
Washington, D.C. 20590

This certifies that the radioactive material package design described has been certified by the Competent Authority of the United States as meeting the regulatory requirements for a Type B(U) packaging for radioactive material as prescribed in the regulations of the International Atomic Energy Agency<sup>1</sup> and the United States of America<sup>2</sup>.

1. Package Identification - Model No. 770.
2. Package Description and Authorized Radioactive Contents - as described in U.S. Nuclear Regulatory Commission Certificate of Compliance No. 9148, Revision 8 (attached).
3. General Conditions -
  - a. Each user of this certificate must have in his possession a copy of this certificate and all documents necessary to properly prepare the package for transportation. The user shall prepare the package for shipment in accordance with the documentation and applicable regulations.
  - b. Each user of this certificate, other than the original petitioner, shall register his identity in writing to the Office of Hazardous Materials Technology, (PHH-23), Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Washington D.C. 20590-0001.
  - c. This certificate does not relieve any consignor or carrier from compliance with any requirement of the Government of any country through or into which the package is to be transported.
  - d. Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations<sup>1</sup> shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors in the United States exporting shipments under this certificate shall satisfy the applicable requirements of Subpart H of 10 CFR 71.

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<sup>1</sup> "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

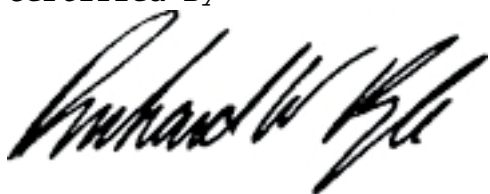
<sup>2</sup> Title 49, Code of Federal Regulations, Parts 100-199, United States of America.

**CERTIFICATE USA/9148/B(U)-96, REVISION 9**

4. Marking and Labeling - The package shall bear the marking USA/9148/B(U)-96 in addition to other required markings and labeling.
5. Expiration Date - This certificate expires on March 31, 2013.

This certificate is issued in accordance with paragraph 808 of the IAEA Regulations and Section 173.471 of Title 49 of the Code of Federal Regulations, in response to the October 19, 2007 petition by QSA Global, Inc., Burlington, MA, and in consideration of other information on file in this Office.

Certified By:



**Nov 30 2007**

(DATE)

Robert A. Richard

Deputy Associate Administrator for Hazardous Materials Safety

Revision 9 - issued to endorse U.S. Nuclear Regulatory Commission Certificate of Compliance No. 9148, Revision 8.

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIAL PACKAGES**

1	a CERTIFICATE NUMBER	b REVISION NUMBER	c DOCKET NUMBER	d PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
	9148	8	71-9148	USA/9148/B(U)-85	1	OF 3

## 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*)

AEA Technology QSA, Inc.  
40 North Avenue  
Burlington, MA 01803

## b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION

AEA Technology QSA, Inc. application  
dated December 21, 2001, 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.: 770
- (2) Description

A steel encased uranium shielded source changer for radiographic sources in special form. The source changer measures 23 inches long, 24 inches wide, and 19.75 inches high. The radioactive source assembly is housed in a titanium "S" tube. The "S" tube is surrounded by depleted uranium metal shield. The depleted uranium shield assembly is encased in two steel containers. The void space between the depleted uranium shield assembly and the inner container is filled with a rigid polyurethane foam. The gross weight of the container is 970 pounds.

## (3) Drawing

The packaging is constructed in accordance with AEA Technology QSA, Inc. Drawing No. R77090 - Sheets 1 through 6, Rev. D.

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## (b) Contents

## (1) Type and form of material

Sources which meet the requirements of special form radioactive material.  
Authorized isotopes include Ir-192, Co-60, Sc-46, and Cs-137

## (2) Maximum quantity of material per package

Isotope	Output Curies
Ir-192	1,000
Co-60	800
Sc-46	800
Cs-137	1,000

## (3) Maximum decay heat per package:

14 watts.

6. Name plates must be fabricated of materials capable of resisting the fire test of 10 CFR Part 71 and maintaining their legibility.
7. In addition to the requirements of Subpart G of 10 CFR Part 71:
  - (a) The package shall be prepared for shipment and operated in accordance with the operating procedures in the application; and
  - (b) The package shall be maintained in accordance with the maintenance program in the application.
8. The packaging authorized by this certificate is hereby approved for use under the general license provision of 10 CFR 71.17.
9. Expiration date: March 31, 2013.

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REFERENCES

AEA Technology QSA, Inc. application dated December 21, 2001.

Supplements dated: September 13, November 7, and November 14, 2002; September 14, 2004;  
September 20, 2007.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



Robert A. Nelson, Chief  
Licensing Branch  
Division of Spent Fuel Storage and Transportation  
Office of Nuclear Material Safety  
and Safeguards

Date: October 2, 2007