



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/0700/B(U)-96, REVISION 3

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

REVALIDATION OF UNITED KINGDOM COMPETENT AUTHORITY
CERTIFICATE GB/3746A/B(U)-96

This certifies that the radioactive material package design described is hereby approved for use within the United States for import and export shipments only. Shipments must be made in accordance with the applicable regulations of the International Atomic Energy Agency¹ and the United States of America².

1. Package Identification - Model 3746A.
2. Package Description and Authorized Radioactive Contents - as described in United Kingdom Certificate of Competent Authority GB/3746A/B(U)-96, Issue 1 (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.

¹ "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.

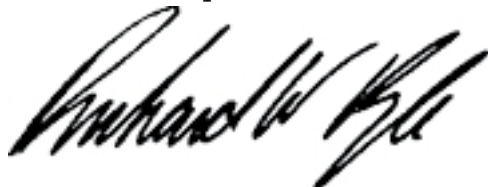
² Title 49, Code of Federal Regulations, Parts 100-199, United States of America.

CERTIFICATE USA/0700/B(U)-96, REVISION 3

- d. Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations¹ 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.
4. Special Conditions -
- a. Although the United Kingdom certificate authorizes several package configurations, the package must be shipped using one of the following inserts and is restricted to the activities listed.
- | Insert Model | Shield Material | Maximum Activity | Maximum Activity |
|--------------|------------------|---------------------|------------------|
| Q0014(a) | Tungsten | 11.9 Tbq(321.3 Ci) | 12.0 Tbq(324 Ci) |
| J19 | Tungsten | 11.9 Tbq(321.3 Ci) | 12.0 Tbq(324 Ci) |
| J48 | Depleted Uranium | 15.3 Tbq (413.1 Ci) | 12.0 Tbq(324 Ci) |
- b. Mod 1, Issue 1 approved by the United Kingdom Competent Authority is approved for use under the terms of this certificate. A copy of the modification is attached.
5. Marking and Labeling - The package shall bear the marking USA/0700/B(U)-96 in addition to other required markings and labeling.
6. Expiration Date - This certificate expires on February 28, 2013. On March 09, 2009, this certificate supersedes all previous revisions of USA/0700/B(U)-96.

This certificate is issued in accordance with paragraph 808 of the IAEA Regulations and Section 173.473 of Title 49 of the Code of Federal Regulations, in response to the February 03, 2009 petition by QSA Global, Inc., Burlington, MA, and in consideration of other information on file in this Office.

Certified By:



Robert A. Richard
Deputy Associate Administrator for Hazardous Materials Safety

Mar 06 2009
(DATE)

Revision 3 - Issued to revalidate United Kingdom Certificate of Approval No. GB/3746A/B(U)-96, Issue 3, including Mod 1, Issue 1. Certificate and Mod are attached.



Reference: GB/3746A/B(U)-96

Issue 3

Page 1 of 7 pages

Certificate of Approval of Package Design for the Carriage of Radioactive Materials

THIS IS TO CERTIFY that the Secretary of State for Transport being, for the purposes of the Regulations of the International Atomic Energy Agency, the Competent Authority of Great Britain in respect of inland surface transport and of the United Kingdom of Great Britain and Northern Ireland in respect of sea and air transport and the Department of the Environment for Northern Ireland being the Competent Authority of Northern Ireland in respect of inland surface transport, have approved the Package design as specified in section 1 of this certificate, as applied for by QSA Global Inc. (see section 6)

as Type B(U)

by road, rail, sea and air

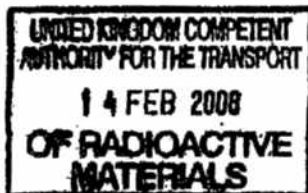
Packaging Identification: 3746A

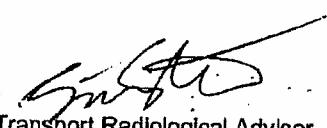
Packages manufactured to this design meet the requirements of the regulations and codes on page 2, relevant to the mode of transport, subject to the following general condition and to the conditions in the succeeding pages of this certificate.

In the event of any alteration in the composition of the package, the package design, the quality assurance programme(s) associated with the package or in any of the facts stated in the application for approval, this certificate will cease to have effect unless the Competent Authority is notified of the alteration and the Competent Authority confirms the certificate notwithstanding the alteration.

Expiry Date: This certificate is valid until the end of February 2013

COMPETENT AUTHORITY IDENTIFICATION MARK: GB/3746A/B(U)-96




Transport Radiological Adviser
Department for Transport
Great Minster House
76 Marsham Street
London SW1P 4DR

*On behalf of the Secretary of State for Transport,
and the Department of the Environment for Northern Ireland*

This certificate does not relieve the consignor from compliance with any requirement of the government of any country through or into which the package will be transported.

REGULATIONS AND CODES OF PRACTICE GOVERNING THE TRANSPORT OF RADIOACTIVE MATERIALS

INTERNATIONAL

International Atomic Energy Agency (IAEA)

TS-R-1 Regulations for the Safe Transport of Radioactive Materials 2005 Edition.

International Maritime Organisation (IMO)

International Maritime Dangerous Goods (IMDG) Code Amendment 33-06.

International Civil Aviation Organisation (ICAO)

Technical Instructions for the Safe Transport of Dangerous Goods by Air 2007-2008 Edition.

United Nations Economic Commission for Europe (UNECE)

European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) 2007 Edition.

Intergovernmental Organisation for International Carriage by Rail (OTIF)

Convention concerning International Carriage by Rail (COTIF) Appendix B. Uniform Rules concerning the Contract for International Carriage of Goods by Rail (CIM) Annex 1 Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) 2007 Edition.

UNITED KINGDOM

ROAD

GREAT BRITAIN ONLY.

The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2007, SI 2007 No 1573.

NORTHERN IRELAND ONLY.

The Radioactive Substances (Carriage by Road) Regulations (Northern Ireland) 1983, SR 1983 No 344. The Radioactive Substances (Carriage by Road) (Amendment) Regulations (Northern Ireland) 1986, SR 1986 No 61.

RAIL

GREAT BRITAIN ONLY.

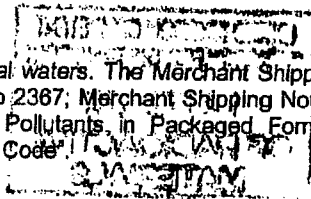
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2007, SI 2007 No 1573.

SEA

British registered ships. All other ships whilst in United Kingdom territorial waters. The Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997, SI 1997 No 2367; Merchant Shipping Notice No MSN 1806 M, "The Carriage of Dangerous Goods and Marine Pollutants in Packaged Form - Amendment 33-06 to the International Maritime Dangerous Goods (IMDG) Code".

AIR

The Air Navigation Order 2005, SI 2005 No 1970. The Air Navigation (Dangerous Goods) Regulations 2002, SI 2002 No 2786. The Air Navigation (Dangerous Goods) (Amendment) Regulations 2007, SI 2007 No 28.



1. PACKAGE DESIGN SPECIFICATION

The Package Design Specification shall be in accordance with QSA Global application for type B(U) Approval for container 3746A QSA/019 Issue 4 dated 31 January 2008 and modifications to the package design approved by the authority named on page 1 of this certificate under the established modifications procedure.

1.1 Specification of Packaging

| Design No. | Title / No. of Components | Drawing List | Issue |
|------------|--|---------------------|-------|
| 3746A | Outer - Steel Drum with Cork Spacers / One. |) DL A70209 sheet 1 | B |
| | |) DL A70209 sheet 2 | D |
| | |) DL A70209 sheet 3 | C |
| 3015 | Inner - Lead Pot, Lid and Shielding inserts (as required) / One. |) DL A70209 sheet 4 | B |
| | |) DL A70209 sheet 5 | B |
| | |) DL A70209 sheet 6 | C |
| IAEA SFC | Any IAEA Special Form Capsule / (see section 4.2b) One or more. |) DL A70209 sheet 7 | A |
| | |) DL A70209 sheet 8 | A |

1.2 Authorised Contents

Metallic Iridium or Selenium intermetallic alloy encapsulated as IAEA Special Form Material.

- a) The maximum activity of Iridium 192 carried in the package is dependant on the package make-up, the following limits shall not be exceeded when using the following inserts:
 - 15.3 TBq when a DU core shield is used
 - 14.7 TBq when a Tungsten core shield is used
 - 4.25 TBq when a Lead core shield is used
- b) The maximum activity of Selenium 75 carried in the package is dependant on the package make-up, the following limits shall not be exceeded when using the following inserts:
 - 12.0 TBq when a DU core shield is used
 - 12.0 TBq when a Tungsten core shield is used
 - 12.0 TBq when a Lead core shield is used
- c) When any combination of the radionuclides referred to in paragraphs 1.2 a) and 1.2 b) is to be carried the activity shall be limited such that the sum of the proportionate amounts of each radionuclide present with respect to the quantities shown does not exceed one.

1.3 Package Dimensions and Weights

- a) Nominal Dimensions: 325mm diameter x 405mm high (see section 5 for package illustration)
- b) Maximum authorised gross weight: 54 kg

2. USE OF PACKAGE

2.1 Use of packaging

- a) The packaging shall be used, handled and maintained in accordance with the requirements of HPI 133 Issue 6 dated 27 November 2007 and QCP406 Issue 5 dated 30 January 2008.

2.2 Actions prior to shipment

- a) Administrative controls shall ensure that the contents are in accordance with section 1 of this certificate, and that the consignor and consignee hold a copy of the instructions on the use of the packaging.
- b) The package is not required to reach thermal equilibrium prior to shipment.

2.3 Emergency Arrangements

- a) Before shipment takes place, the consignor shall have drawn up suitable emergency plans, copies of which shall be supplied to the UK Competent Authority on demand.
- b) If the consignor's own, or other approved emergency plans cannot be initiated, for any reason, then the police shall be informed immediately and requested to call the local NAIR (National Arrangements for Incidents involving Radioactivity) establishment.

3. QUALITY ASSURANCE

3.1 Quality assurance programmes applicable to this design are:

- a) QSM-1: QSA Global Inc. Quality Service Manual; and
- b) any other quality assurance programmes associated with the design, manufacture, testing, documentation, use, maintenance and inspection, and for transport and in-transit storage operations, which must also comply with national or international standards for quality assurance which are acceptable to the authority named on page 1 of this certificate.

- 3.2 No alterations shall be made to the quality assurance programmes associated with this design and approved by the authority named on page 1 of this certificate unless that alteration has the prior approval of said authority, or it falls within the agreed change control procedures of that programme.
- 3.3 No quality assurance programme shall be used at any stage of the design, manufacture, testing, documentation, use, maintenance and inspection, and for transport and in-transit storage operations, unless said programme forms part of or is the quality assurance programme approved by the authority named on page 1 of this approval certificate.

4. ADMINISTRATIVE INFORMATION

4.1 Other related certificates (alternative radioactive contents)

- a) This certificate forms the base approval of this design. Other related UK certificates using the 3746 outer are shown below: -

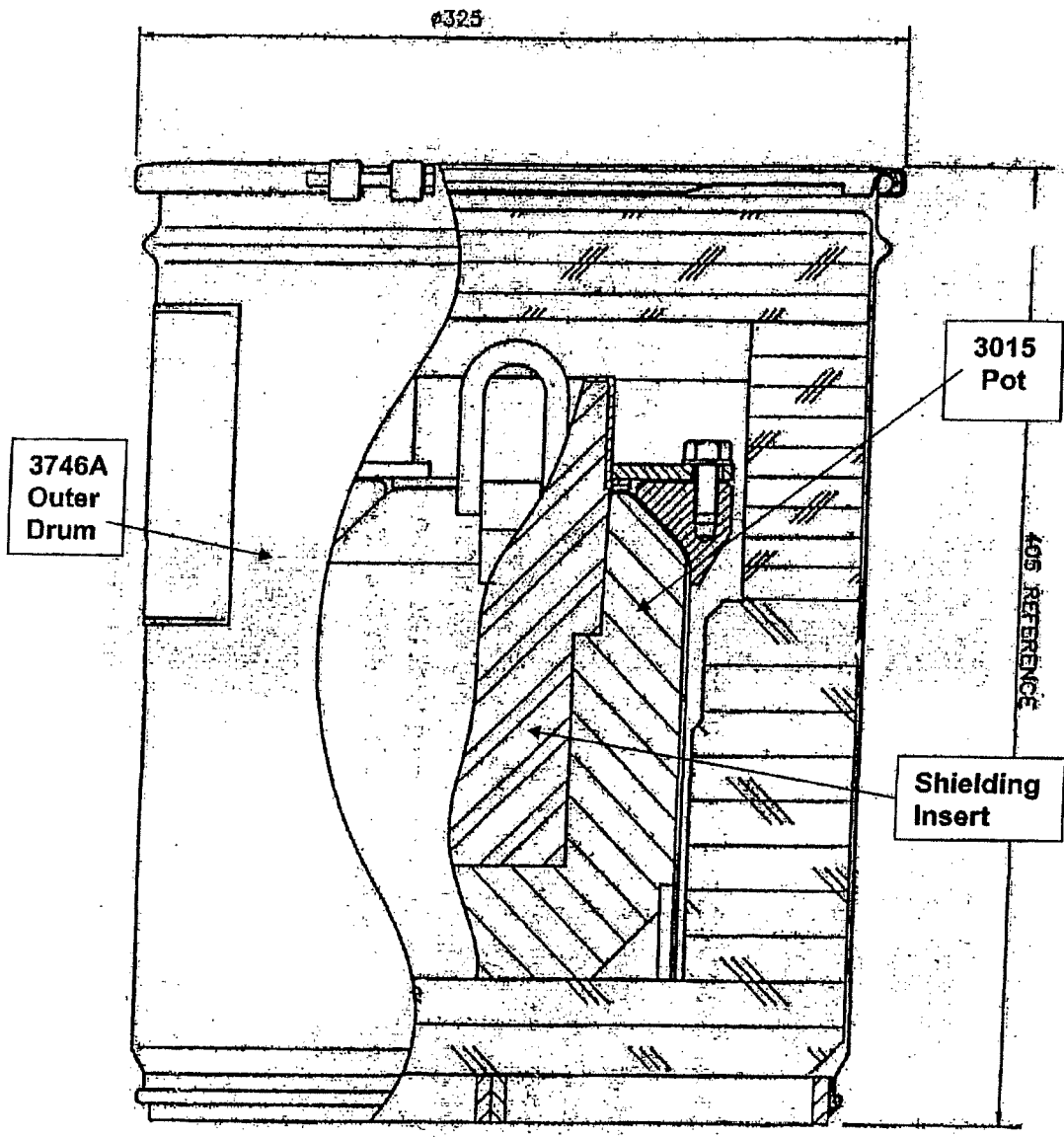
| Certificate Reference & Issue | Certificate Type | Expiry Date |
|-------------------------------|------------------|---------------|
| GB/3746B/B(U)-96 Issue 2 | Design | February 2013 |

The list in 4.1(a) was complete at the time of compilation of this design approval certificate. Other related certificates may exist.

4.2 Additional Technical Data / Information

- a) At the time of compilation of this design approval certificate, The Ionising Radiations Regulations 1999, SI 1999 No 3232 and Approved Code of Practice apply, with regard to radiation protection, to all modes of transport and The Dangerous Substances in Harbour Areas Regulations 1987, SI 1987 No 37, apply in UK Ports.
- b) In all cases where IAEA Special Form Material is specified in section 1 of this certificate, the consignor shall be in possession of a Valid Competent Authority Certificate for said material.

5. PACKAGE ILLUSTRATION
GB/3746A/B(U)-96



6. CERTIFICATE STATUS

Design Approval Issued to:-
QSA Global Inc
40 North Avenue
Burlington, MA 01803
USA

| Issue No. | Date of Issue | Date of Expiry | Reason for Revision |
|-----------------------------|------------------------|-----------------------|--|
| GB/3746A/B(U)-96 Issue 1 | 10 September 2004 | End of September 2007 | First issue under new regulations |
| GB/3746A/B(U)-96 Issue 2 | 24 September 2004 | End of September 2007 | Correction to specification of package |
| GB/3746A/B(U)-96 Issue 3 | As stamp on front page | End of February 2013 | Change of ownership and renewal |
| | | | |
| | | | |