



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/9187/B(U)-96, REVISION 10

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 Agency¹ and the United States of America².

1. Package Identification - Model No. 865.
2. Package Description and Authorized Radioactive Contents - as described in U.S. Nuclear Regulatory Commission Certificate of Compliance No. 9187, 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 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.

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.

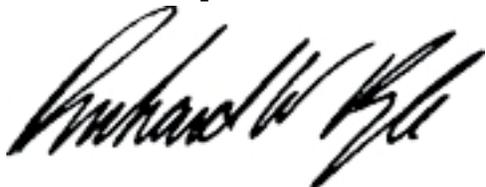
² Title 49, Code of Federal Regulations, Parts 100-199, United States of America.

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4. Marking and Labeling - The package shall bear the marking USA/9187/B(U)-96 in addition to other required markings and labeling.
5. Expiration Date - This certificate expires on March 31, 2014. On March 31, 2010, this certificate supersedes all previous revisions of USA/9187/B(U)-96.

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 April 06, 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

May 01 2009

(DATE)

Revision 10 - Issued to endorse U.S. Nuclear Regulatory Commission Certificate of Compliance No. 9187, Revision 8.

**CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIAL PACKAGES**

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 (<i>Name and Address</i>)
QSA Global, Inc.
40 North Avenue
Burlington, MA 01803 | b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION
QSA Global, Inc. application dated March 6, 2006, as supplemented. |
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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.: 865
- (2) Description

A steel encased, uranium shielded radiographic exposure device 5" OD x 12.25" long. The device is provided with 0.88" OD x 9.25" long handle and two 1.38" x 5.5" long triangular shaped legs. Primary components consist of an outer steel shell, internal bracing, depleted uranium shield, and a source tube. The contents are securely positioned in the source tube by a source holder assembly and actuator and locking assembly. Tamper-indicating seals are provided on the packaging and a 0.12-inch thick steel outer cover is bolted over the source actuator and locking assembly for additional protection during transport. The total weight of the package is approximately 59 pounds.

(3) Drawings

The packaging is constructed in accordance with QSA Global Drawing No. R86590, Sheets 1 through 8, Rev. J.

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5.(b) Contents

(1) Type and form of material:

Iridium-192 as sealed source must meet the requirements of special form radioactive material.

(2) Maximum quantity of material per package:

240 curies (8.9 TBq) (output)

Output curies are determined by measuring the source output at 1 meter and expressing its activity in curies derived from the following: 0.48 R/(h-Ci) Iridium-192 at 1 meter, (Ref: American National Standard N432-1980, "Radiological Safety for the Design and Construction of Apparatus for Gamma Radiography").

6. 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 Section 7 of the application, as supplemented.
- (b) Each packaging shall be maintained in accordance with the Maintenance Program in Section 8 of the application, as supplemented.
- (c) Fabrication of new packagings is not authorized.
- (d) Repair or replacement of welds on existing packagings is not authorized.

7. The packaging authorized by this certificate is hereby approved for use under the general license provision of 10 CFR 71.17.

8. Revision No. 7 of this certificate may be used until March 31, 2010.

9. Expiration date: March 31, 2014.

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REFERENCES

QSA Global, Inc. application dated March 6, 2006.

Supplement(s) dated: August 24, 2006; September 28, 2006; July 14, 2008; February 9, 2009 and March 13, 2009.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



Eric J. Benner, Chief
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Date: March 26, 2009



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

SAFETY EVALUATION REPORT

Model No. 865 Type B(U)-96 Package
Certificate of Compliance No. 9187
Revision No. 8

SUMMARY

By application dated July 14, 2008, supplemented February 9, 2009, and March 13, 2009, QSA Global, Inc. (QSA), submitted a renewal and amendment request for Certificate of Compliance (CoC) No. 9187 for the Model No. 865 Type B package. QSA requested minor clarifications regarding wording, welding criteria, and materials of construction. The certificate has been revised for clarification purposes and renewed for a five year term.

EVALUATION

By application dated July 14, 2008, and supplemented February 9, 2009, and March 13, 2009, QSA requested renewal of CoC No. 9187 for the Model No. 865. Clarifications were made both to the Licensing Drawings and in Chapters of the package application for the Model No. 865 projector.

A reference to "equivalent" requirements for weld inspectors was removed from the Licensing Drawings, and the applicant clarified that American Society for Welding (AWS) codes were used for all packages fabricated on or after November 21, 2005. Inspection of the fasteners was described in the packaging maintenance and inspection program. Inspection of the projector cover hardware for signs of fatigue cracking was added to the packaging maintenance and inspection program. The applicant clarified that, after initial fabrication, the efficacy of the depleted uranium shield was tested by a radiation survey. The applicant also clarified requirements for bringing packages into compliance after failure of maintenance related inspections and for removing packages from service if compliance cannot be achieved.

Under the Division of Spent Fuel Storage and Transportation (SFST) review procedures, the staff would normally require a greater level of detail in the licensing drawings for approval of a Part 71 Type B(U)-96 package. For example, listing "304 stainless steel" is generally not acceptable for safety-related materials because it refers to an austenitic stainless steel without specifying a widely-recognized industry standard. The Model No. 865 package, however, was previously approved and has been safely operated for approximately 25 years. In addition, the Model No. 865 package will no longer be manufactured and welding repairs will be not performed on projectors already in use. Therefore the staff finds that neither the changes requested by QSA to the Model No. 865 package nor their continued use as previously approved are a concern to public health or safety.

The following changes are included in Revision No. 8 to CoC No. 9187:

Condition No. 5(a)(3) was updated to include Revision J of Drawings R86590.

Condition No. 5(b)(2) has been revised to clarify the derivation of the maximum quantity of Iridium-192 in terms of output curies, and to include the corresponding radioactivity in units of terabecquerel.

Condition No. 6(b) was modified to account for the fact that the packagings are no longer fabricated. The reference to Acceptance Tests was deleted.

Condition No. 6(c) was included to specify that fabrication of new packagings is not authorized.

Condition No. 6(d) was included to specify that there shall be no repair or replacement of welds on existing packagings.

Condition No. 8 was revised to authorize use of the previous revision of the CoC for a period of approximately one year.

Condition No. 9 was modified to change the expiration date of the certificate to March 31, 2014.

There was no renumbering of conditions. The July 14, 2008, submittal, supplemented February 9, 2009, and March 13, 2009, was included in the References section.

CONCLUSION

Based on the statements and representations in the application, and as made by the applicant, the staff concludes that the changes indicated for the Model No. 865 series of overpacks and projectors have been adequately described and evaluated and meet the requirements of 10 CFR Part 71.

The certificate has been renewed for a five year term that expires on March 31, 2014. This change does not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 9187 Revision No. 8

on March 26, 2009.



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

CERTIFICATE NUMBER: USA/9187/B(U)-96, Revision 10

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