NRC FORM 618
(8-2000)
10 CFR 71

U.S. NUCLEAR REGULATORY COMMISSION

CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIAL PACKAGES

1 a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE		PAGES
9283	4	71-9283	USA/9283/B(U)-96	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)*

QSA Global, Inc.
40 North Avenue
Burlington, MA 01803

b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION

AEA Technology/QSA Inc. application dated May 21, 1998, 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.: OPL-660 and OP-660

(2) Description

The Model Nos. OPL-660 and OP-660 consist of a radiography camera within a protective container. The protective container is a 20 mm Cartridge Shipping and Storage box fabricated according to military specification MIL-S-23389B. The protective container is of welded steel construction and is approximately 18½ inches long, 14½ inches high, and 8¼ inches wide. The protective container is fitted with foam and wood inserts and a lid that is secured by latches. The Model 660 series projector fits snugly in the center of the foam inserts within the protective container. The Model No. OPL-660 container has thin lead sheets to provide extra shielding at the ends and bottom. The maximum weight of the package is 88 pounds.

The Model 660 series projector is a radiography device. The projector's overall dimensions are approximately 12⅞ inches long, 5¼ inches wide, and 9⅝ inches high. The projector weighs a maximum of 56 pounds. The principal components of the 660 series projectors include an outer steel shell, polyurethane foam, a depleted uranium shield, an "S" tube, and end plugs. The sealed source contents are securely positioned in the "S" tube by a source cable locking device and shipping plug.

(3) Drawings

The packaging is constructed in accordance with the following AEA Technology QSA, Inc., Drawings:

R66050, Rev. D, Sheets 1 & 2, and R66060, Rev. D, Sheets 1-3.

5. (b) Contents

(1) Type and form of material

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

(2) Maximum quantity of material per package

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

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

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. The source shall be secured in the shielded position of the packaging by the source assembly lock, lock cap and safety plug assembly. The safety plug assembly, lock cap and 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 locking ball of the source assembly must engage the locking device. The flexible cable of the source assembly and safety plug assembly must be of sufficient length and diameter to provide positive positioning of the source in the shielded position.

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.

(c) No service operations shall include replacement of the shell, of the depleted uranium shield or any shell weld repair.

9. The package authorized by this certificate is hereby approved for use under general license provisions of 10 CFR 71.17.

10. Revision No. 3 of this certificate may be used until March 31, 2010.

11. Expiration date: June 30, 2013.

REFERENCES

AEA Technology QSA, Inc., application dated May 21, 1998.

Supplements dated: June 15, 1998; March 6, 2003; May 30, 2006; November 6, 2007; September 23, 2008 and February 19, 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 24, 2009

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

SAFETY EVALUATION REPORT
Model Nos. OPL-660 and OP-660 Packages
Certificate of Compliance No. 9283
Revision No. 4

SUMMARY

By application dated September 23, 2008, and supplemented February 19, 2009, QSA Global, Inc., (QSA) submitted an amendment request for the Model Nos. OPL-660 and OP-660 series of overpacks and projectors. QSA did not request any changes to the package design or its contents but requested minor clarifications regarding wording, welding criteria, and materials of construction. The certificate has been revised for clarification purposes to include revisions to the licensing drawings.

EVALUATION

By application dated September 23, 2008, and supplemented February 19, 2009, QSA submitted an amendment request for Certificate of Compliance (CoC) No. 9283 for the Model Nos. OPL-660 and OP-660 series of overpacks and projectors. The applicant did not request any design changes to the package. The applicant had identified minor discrepancies in the referenced drawings which were found to have no significant adverse effect on the safety or integrity of the package. The amendment made no change to the tested construction of components. The staff reviewed the drawing revisions included in the amendment request and determined that there is no safety significance associated with either the corrections on the drawings or use by the registered users of the certificate.

The applicant described the inspection of the projector hardware, prior to shipment, for readily visible signs of fatigue cracking without hardware removal or disassembly. The applicant also described a more detailed inspection of the fasteners in the packaging maintenance and inspection program. A reference to an alternative, but "equivalent," loading procedure in Section 7.1.1 of the application was removed and the alloy designation for the titanium s-tube was specified on the licensing drawing. The applicant clarified that, after initial fabrication, the efficacy of the depleted uranium shield was tested by a radiation survey. In a communication with the staff, the applicant also stated that the shipping plug and associated fitting were both classified as Class B safety items. The applicant confirmed that no future repair or replacement of the 660 shell will be performed for any Type B package currently in use.

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, the American Iron and Steel Institute (AISI) designation is generally not acceptable for safety-related materials because it establishes no requirements for material properties, heat treatment, form, or quality. The Model Nos. OPL-660 and OP-660 series of overpacks and projectors, however, were previously approved and have been safely operated for over 30 years. In addition, the licensing drawings clearly state that the Model Nos. OPL-660 and OP-660 are no longer manufactured and that no future repairs on any of the welds of the Model Nos. OPL-660 and OP-660 shells will be performed. QSA also confirmed that no service or repair operations will include replacement of the depleted uranium shield.

Therefore the staff finds that neither the changes requested by the applicant to the Model Nos. OPL-660 and OP-660 packages nor their continued use as previously approved are a concern to public health or safety.

The required documentation is available and complete.

Changes to Certificate of Compliance

The following changes are included in Revision No. 4 to CoC No. 9283:

Condition No. 5 (a)(3) was updated to include revision D of drawings R 66050 and revision D of drawings R 66060.

Condition No. 8(c) was included to specify that the package can no longer be used if it necessitates repair or replacement of welds on the existing packages.

Condition No. 10 of the certificate was revised to authorize use of the previous revision of the certificate for a period of approximately one year.

Condition No. 12 of the certificate Revision No. 3 was renumbered Condition No. 11 in the certificate Revision No. 4 for clarity purposes. The expiration date of the certificate was not modified.

The September 23, 2008, submittal, supplemented February 19, 2009, was included in the References section.

CONCLUSION

Based on the statements and representations in the application, the staff has reviewed the proposed changes for the Model No. 660 series of overpacks and projectors. The staff concludes that the changes indicated do not affect the ability of the packages to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 9283, Revision No. 4,
on March 24, 2009.