

**CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIAL PACKAGES**

1. a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
9296	6	71-9296	USA/9296/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

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| <p>a. ISSUED TO (<i>Name and Address</i>)</p> <p>QSA Global, Inc.
40 North Avenue
Burlington, MA 01803</p> | <p>b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION</p> <p>QSA Global, Inc., consolidated application dated
October 20, 2005.</p> |
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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. 880 Series Packages
- (2) Description

The Model No. 880 series packages are designed for use as a radiography exposure device and a transport package for Type B quantities of radioactive material in special form. The Model No. 880 has three versions called the 880 Delta, 880 Sigma and the 880 Elite. The 880 Delta has a maximum capacity of 150 Curies of Iridium-192 or 150 Curies of Selenium-75, the 880 Sigma has a maximum capacity of 130 Curies of Iridium-192 or 150 Curies of Selenium-75, and the 880 Elite has a maximum capacity of 50 Curies of Iridium-192 or 150 Curies of Selenium-75. The Delta and Sigma versions are identical and the Elite has a lighter weight depleted uranium shield. An optional jacket can be placed on the packages when they are used as an industrial radiography exposure device or a transport package.

All versions of the package, without the jacket, are cylindrical in shape with a diameter of 5 inches and a length of 13 5/16 inches. With the jacket, the shape of the packages is an extruded triangle 9 inches high, 7 1/2 inches wide, and 13 5/16 inches long. The weight of the Delta and Sigma versions is 46 pounds (52 pounds with the jacket) and the Elite version is 37 pounds (42 pounds with the jacket).

The major components of the packages consist of a welded stainless steel cylindrical body, a depleted uranium shield, a stainless steel rear plate with a locking assembly, a stainless steel front plate with a shielded port, and an optional jacket.

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5.(a) (2) Description (continued)

The welded cylindrical body consists of a five inch diameter, 0.06 inch wall tube shell with 0.12 inch end-plates. A U-bracket is welded to each end-plate and is located on the inside cavity of the shell tube. The depleted uranium shield is centrally located within the welded body between the end-plate and is fastened to each U-bracket by a 0.37 inch diameter titanium shield pin. A U-shaped copper spacer fills the gap between the shield and the U-bracket. An S-shaped titanium source tube is cast into the center of the shield to provide a cavity for the source wire assembly to travel through during use.

The front and rear plates are attached to the welded body with four tamperproof screws through rivnuts assembled into end-plates. The rear plate assembly consists of a source locking mechanism fastened to the rear plate. The front plate assembly consists of a shielded port mechanism contained within the front plate.

An optional polyurethane jacket covers the package cylinder and provides a handle and a stable base. The jacket handle contains a wire molded in for additional reinforcement.

(3) Drawings

The packaging is constructed in accordance with the AEA Technology/QSA, Inc., drawings R88000, Rev. J, Sheets 1-5.

(b) Contents

(1) Type and form of material

Iridium-192 as a sealed source which meets the requirements of special form radioactive material.

Selenium-75 as a sealed source which meets the requirements of special form radioactive material.

(2) Maximum quantity of material per package

150 Curies (5.55 TBq) (output) Ir-192 for the Model No. 880 Delta.
150 Curies (5.55 TBq) (output) Se-75 for the Model No. 880 Delta.

130 Curies (4.81 TBq) (output) Ir-192 for the Model No. 880 Sigma.
150 Curies (5.55 TBq) (output) Se-75 for the Model No. 880 Sigma.

50 Curies (1.85 TBq) (output) Ir-192 for the Model No. 880 Elite.
150 Curies (5.55 TBq) (output) Se-75 for the Model No. 880 Elite.

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5. (b) (2) Contents (continued)

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/hr - Ci Iridium-192 at 1 meter and 0.20 R/hr - Ci Selenium-75 at 1 meter. (Ref: Radiological Health Handbook, rev. ed., U.S. Public Health Service, Bureau of Radiological Health, Rockville, MD, 1970.)

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 1475EF 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:
- The package must meet the Acceptance Tests and Maintenance Program of Chapter 8.0 of the application; and,
 - The package shall be prepared for shipment and operated in accordance with the Operating Procedures in Chapter 7.0 of the application.
9. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR 71.17.
10. Revision No. 5 of this certificate may be used until August 31, 2007.
11. Expiration date: March 31, 2011.

REFERENCES

QSA Global, Inc., consolidated Safety Analysis Report dated October 20, 2005.

Supplement dated July 19, 2006.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

**/RA/ Nancy Osgood for/
Christopher Regan, Acting Chief
Licensing Section
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards**

Date: September 1, 2006