

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIAL PACKAGES**

a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
9269	11	71-9269	USA/9269/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*)
- b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION

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

QSA Global, Inc., application dated  
January 15, 2020.

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.: 650L
- (2) Description

A welded carbon or stainless steel cylindrical outer shell encases a welded carbon or stainless steel rectangular inner shell. The inner shell contains a titanium "U" tube set in depleted uranium along with internal supports. The tube is crimped in the middle of the "U" to provide a positive stop for the source assembly. Additional shielding is provided by lead or tungsten positioned at various locations around the depleted uranium shield. The Model No. 650L has two source locking assemblies, mounted on the top cover plate, that are used to secure the radioactive special form source, Iridium-192 or Selenium-75, in a shielded position during transport. The packaging measures approximately 10-inches (254 mm) wide, 13.25-inches (337 mm) high and 8.25-inches (210 mm) deep. The maximum weight of the packaging is 90 pounds (41 kg).

- (3) Drawings

The packaging is constructed in accordance with QSA Global, Inc., Drawing No. R65006, Revision P, sheets 1-5.

(b) Contents

- (1) Type and form of material

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

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9269	11	71-9269	USA/9269/B(U)-96	2	OF 3

5.(b) Contents (continued)

Selenium-75 as sealed sources which meet the requirements of special form radioactive material.

(2) Maximum quantity of material per package

Ir-192: 240 curies (8.9 TBq) (output)

Se-75: 300 curies (11.1 TBq) (content)

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").

(3) Maximum weight of contents

0.08 pounds (36 grams), including the mass of radioactive material and the weight of the source capsule handling wire assembly for a shipment containing two source wire assemblies.

(4) Maximum decay heat

Ir-192: 4.8 Watts

Se-75: 1.52 Watts

6. The source shall be secured in the shielded position of the packaging by the source assembly. The source assembly must be fabricated of materials capable of resisting a 1475°F fire environment for one-half hour and maintaining its positioning function. The cable of the source assembly must engage the source hold-down assembly. The flexible cable of the source assembly must be of sufficient length and diameter to provide positive positioning of the source at the crimp of the "U" tube.

7. The nameplates shall be fabricated of materials capable of resisting the fire test of 10 CFR Part 71 and maintaining their legibility.

8. In addition to the requirements of Subpart G of 10 CFR Part 71:

(a) The package shall be prepared for shipment in accordance with the Operating Procedures in Chapter 7 of the application, and

(b) The packaging shall be maintained in accordance with the Maintenance Program in Chapter 8 of the application.

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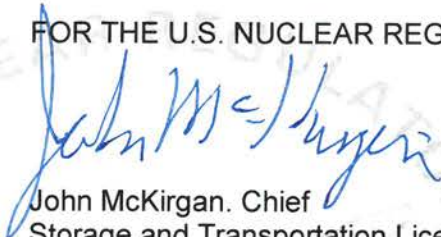
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9269	11	71-9269	USA/9269/B(U)-96	3	OF 3

9. Fabrication of new packagings is not authorized. Fabrication of replacement components needed to support shipment of existing packages is authorized, except for the depleted uranium shield and the inner carbon steel shell.
10. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR 71.17.
11. Expiration date: November 30, 2025.

REFERENCES

QSA Global, Inc., application dated January 15, 2020.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



John McKirgan, Chief  
Storage and Transportation Licensing Branch  
Division of Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

Date: 03/19/20





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

**SAFETY EVALUATION REPORT**  
**Docket No. 71-9269**  
**Model No. 650L Transport Package**  
**Certificate of Compliance No. 9269**  
**Revision No. 11**

## **SUMMARY**

By application dated January 10, 2020, as supplemented on January 15, 2020, QSA Global (the applicant) requested the renewal of Certificate of Compliance (CoC) No. 9269, for the Model No. 650L transport package. The CoC references the applicant's submittal dated January 15, 2020, which corresponds to the consolidated application for the Model No. 650L. The applicant also requested an additional change in the CoC to measure the maximum quantity of the <sup>75</sup>Se as content and not output. The applicant did not request additional changes to the package design or its authorized contents. The certificate has been renewed for a five-year term. The Model No. 650L is under the applicant's quality assurance program with Docket No. 71-40.

## **EVALUATION**

The staff reviewed the applicant's request to renew the CoC the Model No. 650L and verified that the applicant incorporated the changes corresponding to documents listed in the "References" section of the C. In addition, on March 13, 2020, the applicant also requested, by email, to change the maximum quantity of <sup>75</sup>Se in sources, to be identified, in CoC Condition 5(b)(2), as content and not output. The applicant noted that this change was needed to make the CoC technically correct, since transportation regulations require to ship nuclides based on content shipment and allow to ship <sup>192</sup>Ir based on output activity. Per the applicant this reflects the current practice when shipping authorized sources is this package. Therefore, the revision to CoC Condition 5(b)(2) related to <sup>75</sup>Se in sources does not affect the performance of the package.

In terms of the renewal, the staff reviewed the documents referenced in the CoC and determined that the documentation was available and complete. Given the number of supplements in the certificate for the Model No. 650L, the staff requested a consolidated application for this renewal. The staff verified that the information in the supplements listed in Revision 10 of CoC No. 9269 was incorporated into the consolidated application.

Based on the application and its supplements, the staff finds that the information provided by the applicant is adequate and the package continues to meet the requirements of 10 CFR Part 71.

## **CONDITIONS**

The following conditions of the CoC were revised or added to the certificate:

- 1) In Condition No. 1.b., the revision No. of the certificate was increased to 11.
- 2) Condition 3.b. has been revised to add the consolidated application.
- 3) Condition 5.(b)(2) has been revised to identify the maximum amount of <sup>75</sup>Se as content.
- 4) Condition No. 11 was revised to reflect the new certificate expiration date.

The "REFERENCES" section has been updated to include the date of the consolidated application submitted by the applicant for the renewal request.

## **CONCLUSION**

The certificate has been renewed for a five-year term, which expires on November 30, 2025. Based on the statements contained in the application, and the conditions listed above, the staff concludes that the changes to the certificate, indicated by the applicant, do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 9269, Revision No. 11.  
on 03/19/20.