December 2, 2010

Ms. Lori Podolak
Senior Regulatory Affairs Specialist
Regulatory Affairs Department
QSA Global, Inc.
40 North Avenue
Burlington, MA 01803

SUBJECT: REVISION NO. 14 OF CERTIFICATE OF COMPLIANCE NO. 6613 FOR THE MODEL NO. 702 PACKAGE

Dear Ms. Podolak:

As requested by your application dated August 16, 2010, supplemented September 21 and October 28, 2010, enclosed is Certificate of Compliance No. 6613, Revision No. 14, for the Model No. 702 package. Changes made to the enclosed certificate are indicated by vertical lines in the margin. The staff's Safety Evaluation Report is also enclosed.

The approval constitutes authority to use the package for shipment of radioactive material and for the package to be shipped in accordance with the provisions of 49 CFR 173.471. Those on the attached list have been registered as users of the package under the general license provisions of 10 CFR 71.17 or 49 CFR 173.471.

If you have any questions regarding this certificate, please contact me or Pierre Saverot of my staff at (301) 492-3408.

Sincerely,

/RA/

Robert Johnson, Acting Chief
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-6613
TAC No. L24468

Enclosures:
1. Certificate of Compliance No. 6613, Rev. No. 14
2. Safety Evaluation Report
3. Registered Users

cc w/encls 1 & 2: R. Boyle, Department of Transportation
J. Shuler, Department of Energy
Registered Users

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Distribution: **(Closes TAC No. L24468)**

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OFC:	SFST	SFST	SFST			
NAME:	PSaverot	MGordon	MSampson	MDeBose	RJohnson	
DATE:	11/24/2010	11/30/2010	11/20/2010	11/29/2010	12/2/2010	

ADAMS Package No.: ML103360317

C = COVER E = COVER & ENCLOSURE N = NO COPY OFFICIAL RECORD COPY

SAFETY EVALUATION REPORT
Model No. 702 Package
Certificate of Compliance No. 6613
Revision No. 14

SUMMARY

By application dated August 16, 2010, as supplemented September 21 and October 28, 2010, QSA Global, Inc., (QSA) submitted an amendment request for the Model No. 702 package to allow for fabrication of new packagings as well as manufacture of replacement parts for existing packages in need of maintenance and/or repair. QSA also requested the use of an optional metallic canister or insert when transporting any radionuclide in the package. QSA submitted a consolidated application and requested that the package application review includes consideration of NUREG-1886, "Joint Canada-United States Guide for Approval of Type B(U) and Fissile Material Transportation Packages."

NRC staff reviewed the application using the guidance in NUREG-1609, "Standard Review Plan for Transportation Packages for Radioactive Material" and NUREG-1886. Based on the statements and representation in the application, as supplemented, and the conditions listed below, the staff concludes that these changes do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

EVALUATION

By application dated August 16, 2010, as supplemented September 21 and October 28, 2010, QSA submitted an amendment request for Certificate of Compliance (CoC) No. 6613 for the Model No. 702 package. QSA provided a consolidated application, as specified in 10 CFR 71.38(c), and requested approval of the package under the auspices of NUREG-1886, "Joint Canada-United States Guide for Approval of Type B(U) and Fissile Material Transportation Packages."

The amendment requested the approval of the use of an optional metallic canister or insert (in lieu of a tungsten insert as currently used for the shipment of Ir-192) when transporting any radionuclide in the package. A radiation survey of the package containing a 15,000 Curie Ir-192 source was done without the use of the tungsten insert and survey results demonstrated that the package was in compliance with regulatory radiation limits, as listed in Table No. 5.1.F of the application. Thus, no additional shielding is necessary when the package is loaded to capacity for Ir-192. The staff finds the potential for a significant eutectic reaction between two solid materials at 800°C to be negligible, including the potential for a uranium/stainless steel reaction. Therefore, the staff finds acceptable the use of any metallic can that is non-pyrophoric with a melting temperature above 800°C. Further, the use of any metallic insert or canister to limit movement of source capsules has no adverse impact on either the package containment or its shielding efficiency.

The applicant clarified that safety-related stainless steel components shall meet the ASTM standards listed on sheet 1 of licensing Drawing No. R70290. These standards list minimum mechanical properties for these steels or, in the case of ASTM 269, a qualitative ductility acceptance test for the material. The specification of widely recognized industry standards for

materials which are safety-related meets the requirements of 10 CFR 71.31(c). The staff finds the standards listed on the licensing drawings acceptable.

The applicant clarified that the Model No. 702 package will be fabricated according to American Welding Society (AWS) codes D1.1, D1.3, and D1.6 for the applicable materials of construction. The staff determines that this is acceptable under the guidance in Section 2.5.3.1 of NUREG-1609.

The applicant clarified that Quality Class A components are considered to be important to the package safety. The applicant noted that 304 stainless steel was used for the testing of the package and confirmed that, by applying UNS S30400 on the licensing drawings, it will be restricted in using only 304 stainless steel which meets the A240/240M criteria.

The applicant revised a number of sections in the application for clarity and completeness, but such revisions did not change the original intent of the sections affected nor did they change the package construction or design. For example, the overall assembled package dimension was revised from 20" to 19 ¾" to more accurately describe the stack-up dimensions and production tolerances: such change has no safety significance. The maximum diameter of the shield cover has been corrected to 6 ½" from 7.08 inches as stated in previous revisions of the application, and this change accurately describes the unit fabrication and resultant bolt stress.

Also, the term "equivalent procedures" was deleted, a requirement for the package to be properly blocked and braced prior to shipment in conveyance was added, details were added for the source capsule leak test, and industrial codes for carbon steel tubing were revised.

The staff reviewed the consolidated application, as supplemented, and determined that the required documentation is available and complete.

Changes to Certificate of Compliance

The following changes have been made to the Certificate:

Condition No. 3.b was revised to include the newly consolidated application.

Condition No. 5(a)(2) was rewritten to clarify the description of the package, include dimensions in SI units, and revise the overall assembled package dimension from 20" to 19 ¾".

Condition No. 5 (a)(3) was updated to include revision V of Drawings No. R 70290.

Condition No. 5(b)(2) was revised to include output activity in TBq.

Condition No. 5(b)(3) was revised to correct the maximum decay heat per package.

Condition No. 5(b)(4) was added to include the maximum weight of the contents.

Condition No. 9 was modified to authorize use of the previous revision of the certificate for a period of approximately one year.

Condition No. 10 (previously known as Condition No. 9 in Revision No. 13 of the certificate) includes now the expiration date of the certificate.

The expiration date of the certificate was not modified.

The August 16, 2010, submittal, as supplemented September 21 and October 28, 2010, supersedes all previous revisions of the application and was included in the References section.

CONCLUSION

Based on the statements and representations contained in the application, as supplemented, and the conditions listed above, the staff concludes that the design of the Model No. 702 package has been adequately described and evaluated. The staff concludes that the changes indicated do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 6613, Revision No. 14,
on December 2, 2010.