

August 3, 2006

Ms. Lori Podalak
Product Licensing Specialist
QSA Global, Inc
40 North Avenue
Burlington, MA 01803

SUBJECT: CERTIFICATE OF COMPLIANCE NO. 9269 FOR THE
MODEL NO. 650L PACKAGE

Dear Ms. Podalak:

As requested by your letter dated March 1, 2006, enclosed is Certificate of Compliance No. 9269, Revision No. 5, for the Model No. 650L transport package. Revision 5 adds Selenium-75 to the approved contents for the Model No. 650L package. Changes 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. Registered Users may request by letter to remove their names from the Registered Users List.

If you have any questions regarding this certificate, please contact me or Jill Caverly of my staff at 301-415-8500.

Sincerely,
/RA/
Christopher M. Regan, Acting Chief
Licensing Section
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-9269
TAC No. L23950

Enclosures: 1. Certificate of Compliance
2. Safety Evaluation Report
3. Registered Users List

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

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SAFETY EVALUATION REPORT

Docket No. 71-9269
QSA Global Inc.
Model No. 650L Transport Package
Revision No. 5

SUMMARY

By application dated March 1, 2006, QSA Global, Inc. (QSA) requested that the Certificate of Compliance (CoC) No. 9269 for the Model No. 650L package be reviewed by the U.S. Nuclear Regulatory Commission (NRC) for consistency with the requirements of Title 10 Code of Federal Regulations (CFR) Part 71 as revised in a final rule effective October 1, 2004 (69 FR 3786) and for the addition of Selenium-75 (Se-75) to the package contents. In addition, QSA submitted an updated application package to follow guidance for format in NRC Regulatory Guide 7.9, Revision 2.

Based on the statements and representations in the application, as supplemented, and the staff's review and interpretation of the applicable requirements, the staff concludes the revision to the CoC meets the requirements of 10 CFR Part 71. Accordingly, the CoC has been updated to include the revisions requested in the application and as approved in this Safety Evaluation Report. The package identification number has been amended to include the "-96" designation, identifying that it meets the updated regulations as described in the package application.

EVALUATION

Compliance With the Requirements of 10 CFR PART 71, FINAL RULE "-96" Update

10 CFR Part 71, "Packaging and Transportation of Radioactive Material" was updated for compatibility with the International Atomic Energy Agency standards (69 FR 3786) effective October 1, 2004. As a result of this update, transportation packages should be updated to meet the revised requirements. The new designation of "-96" has been requested for Model No. 650L to identify that it meets the requirements of the updated rule. The staff has reviewed the issues associated with the updated 10 CFR Part 71.

Of the 19 issues identified during the update, no issues pertain to this package. Therefore, the staff has determined that the package meets the requirements of the revised 10 CFR Part 71 and can be designated with a "-96" indicating compliance with the new regulations. The CoC has been updated with the new designation.

Shielding Evaluation - Safety Analysis Report (SAR), Chapter 5.0

The application proposed the addition of a 300 Curie (Ci) Selenium-75 (Se-75) source to the approved contents of the source changer. The applicant performed dose measurements for a Se-75 source in a Model No. 650L package to demonstrate that the dose rates from the Se-75 source are bounded by those from the currently approved 240 Ci Iridium-192 (Ir-192) contents. The staff reviewed the application and performed a verification calculation to compare the dose rates from the 300 Ci Se-75 and the 240 Ci Ir-192 sources.

The measurements for the Se-75 source were performed on an as-manufactured package and compared to the measurements made for the Ir-192 source in a package tested for conditions normal to transport. While a more accurate comparison would be with dose rates on packages that had experienced similar conditions (tested, or as-manufactured), staff finds the comparison acceptable for two reasons. First, a review of the dose measurements of test units made before and after testing indicate that, overall, differences in dose rates on as-manufactured packages and packages tested for conditions normal to transport are small. Second, the margin between the measured dose rates and the regulatory limits is large. Additionally, staff's independent calculation showed that the dose rates from the Ir-192 source bound the dose rates from the proposed Se-75 source. Therefore, based on a review of the applicant's measurements and staff's independent calculation, staff finds that the dose rates from the proposed Se-75 contents are bounded by the dose rates from the approved Ir-192 contents and thus meet the regulatory dose rate limits of 10 CFR Part 71.

Therefore, based on the review of the statements and representations made in the application, the staff finds that the package design with the proposed contents meets the shielding requirements of 10 CFR Part 71.

Operating Procedures and Acceptance Tests and Maintenance Program Evaluation - SAR, Chapters 7 and 8

Chapter 7 and Chapter 8 of the SAR were updated to conform to the guidance in Regulatory Guide 7.9. In addition, these chapters were updated to include the addition of Selenium-75 as new contents.

Chapter 7 of the SAR describes by what means the package is loaded, closed, and prepared for transport. Chapter 7 was revised to include the isotope Se-75. QSA added clarification to several sections of the Operating Procedures. These included added clarification for surveys required for preparation for transport, loading of contents, and preparation of empty packages. Chapter 8 of the SAR describes the acceptance test and maintenance program. QSA updated Chapter 8 to include additional details for visual inspection, structural and pressure tests, and radiation surveys. Staff has reviewed Chapter 7 and Chapter 8 of the SAR in accordance with the regulations of 10 CFR Part 71 and concludes that these changes do not adversely affect radiation safety and the package shielding design and that the testing and procedures meet the requirements of 10 CFR Part 71.

CHANGES TO THE CERTIFICATE OF COMPLIANCE

The following changes are included in Revision 5 to CoC No. 9269.

- Condition No. 3(a) was updated with the new company name of QSA Global, Inc.
- Condition No. 5(a)(2) was updated to include Selenium-75 in the package description.
- Condition No. 5(a)(3) was updated to reference Revision H to drawing R65006.
- Condition No. 5(b)(1) was updated to include the Selenium-75 in the package contents.
- Condition No. 5(b)(2) was updated to include the limit of the maximum quantity of material per package for Selenium-75 and its associated reference for calculating the output requirement.
- Condition No. 10 was added to allow use of Revision 4 for a period of one year.
- The March 1, June 6, June 30, and July 14, 2006, submittals were included in the References section.

CONCLUSION

Based on the statements and representation in the application, the staff concludes that the Model No. 650L meets the requirements of the revised 10 CFR Part 71 and can be designated with “-96” in the identification number. Additionally, the requirements have been addressed for the addition of Se-75 to the package contents.

Issued with Certificate of Compliance No. 9269, Revision No. 5
on August 3, 2006.