



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

December 23, 2015

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

**SUBJECT: REVISION NO. 10 OF CERTIFICATE OF COMPLIANCE NO. 9296 FOR THE  
MODEL NO. 880 SERIES OF TRANSPORTATION PACKAGES**

Dear Ms. Podolak:

As requested by your application dated December 21, 2015, as supplemented December 22 and 23, 2015, enclosed is Certificate of Compliance No. 9296, Revision No. 10, for the Model No. 880 Series Packages. Changes made to the enclosed certificate are indicated by vertical lines in the margin. The staff's safety evaluation report is also enclosed. Your application request was expedited in response to our teleconference (ML15357A271) dated December 21, 2015.

This 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. Registered users of the package under the general license provisions of 10 CFR 71.17 or 49 CFR 173.471 have been provided a copy of this certificate.

If you have any questions regarding this certificate, you may contact me or Huda Akhavannik of my staff at 301-415-5253.

Sincerely,

/RA/

Steve Ruffin, Acting Chief  
Spent Fuel Licensing Branch  
Division of Spent Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 71-9296  
TAC Nos. L25071 and L25072

Enclosures: 1. Certificate of Compliance  
No. 9296, Rev. No. 10  
2. Safety Evaluation Report  
3. Registered Users

Upon removal of Enclosure 3, this  
document is uncontrolled

cc w/encls. 1 & 2: R. Boyle, Department of Transportation  
J. Shuler, Department of Energy, c/o L. F. Gelder



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**SAFETY EVALUATION REPORT**  
**Docket No. 71-9296**  
**Model No. 880 Series Packages**  
**Certificate of Compliance No. 9296**  
**Revision No. 10**

## **SUMMARY**

By application dated December 21, 2015, as supplemented December 22 and 23, 2015, QSA Global, Inc. (QSA) requested amendment to Certificate of Compliance (CoC) No. 9296, for the Model No. 880 Series Packages. QSA requested revising the CoC to include changes made to the drawings to more accurately describe the fabricated package and to correct minor errors found as part of a 10 CFR 71.95 report analysis. Note that a condition of the general license in 10 CFR 71.71 is that the general licensee must comply with the terms and conditions of the certificate, which include ensuring that the package is fabricated in accordance with the drawings referenced in the certificate of compliance.

Additionally, QSA requested renewal of the package. Staff reviewed these changes and concludes that they do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

## **EVALUATION**

By application dated December 21, 2015, as supplemented December 22, 2015, QSA requested amendment to Certificate of Compliance (CoC) No. 9296, for the Model No. 880 Series Packages. QSA requested to revise the CoC to include changes made to the drawings to more accurately describe the fabricated package and to correct minor errors found as part of a 10 CFR 71.95 report analysis. Additionally, QSA requested renewal of the package.

QSA discovered errors on the Model No. 880 transportation package licensing drawings on the shell used on the body assemblies and the front plate set screw. QSA submitted their 71.95 report highlighting these errors in their December 21, 2015 submittal. The errors are a result of the production drawings of the package not meeting the licensing drawings specified in the CoC.

On the shell, the tolerance on the production drawings was 0.001 inches different than the tolerance on the licensing drawings. The tolerance on the production drawings, per ASTM A249 which includes a permissible variation of  $\pm 10\%$ , was  $\pm 0.006$  inches. On the licensing drawings, the tolerance was  $\pm 0.005$  inches. The drawings have been updated to allow a 0.001 inch increase in tolerance for the package shell and the shell wall thickness is now  $0.065 \pm 0.006$  inches. The stress calculations for the body cylinder in the safety analysis report (SAR) have also been updated with these new tolerance values. Staff reviewed these calculations and notes that the 0.001 inch increase in tolerance does not increase the stress. Therefore, staff determined that this change does not affect the ability of the package to meet the requirements of 10 CFR Part 71.

The front plate set screw, which can be either a roll pin or set screw, is identified as “not important to safety.” The licensing drawing describes the set screw differently than the production drawing, therefore it is possible that screws accepted under the production drawing are 0.03 inches shorter in length than those allowed by the licensing drawing. The licensing drawings have been updated to change the dimensions for the screws to reference dimensions. Additionally, the drawing has been updated to allow for the optional use of Loctite on the screws. Staff reviewed these changes and determined that it does not affect the ability of the package to meet the requirements of 10 CFR Part 71.

In addition to requesting changes to ensure their as-fabricated packages are in compliance with the CoC, QSA requested other changes to the drawings, CoC, and SAR.

QSA requested changes to section 5.(a)(2), “Description,” to say, “[t]he Model No. 880 series packages are designed for use as radiography exposure devices (or source changers) and as transport packages for Type B quantities of radioactive material in special form.” Previously, the sentence stated, “[t]he 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.” This change highlights the fact that the Model No. 880 can also be used as a source changer. The Model No. 880 contains the 880SC variation which is used as a source changer. Staff has reviewed this editorial change and updated text in the description section of the CoC.

QSA also requested several changes to their drawings. QSA requested revising drawing no. R88000, sheet 5, to identify the s-tube wall thickness as 0.06 inches instead of 0.056 inches. On drawing no. R880SC, the same s-tube wall thickness is specified as 0.06 and so this change is requested to ensure consistency between the two drawings. Staff reviewed the change and concludes that it meets the requirements of 10 CFR Part 71.

QSA also requested changes on drawing no. R88000, sheet 2. QSA requested revising the drawing to remove a redundant end plate thickness callout. Staff notes that this is an editorial change. Additionally, QSA revised the hole diameter dimension for the spacer holes in the shield attachment by eliminating a significant figure. Previously, the drawing stated the hole diameter dimension as “.380/.400,” now, the hole diameter states “.38/.40.” With this change, the tolerance of the hole can vary by 0.01 inches as opposed to 0.005 inches. Staff reviewed the potential consequences of this change and concludes that it will not affect the shield attachment or the safety performance of the package. Drawing nos. R88000 and R880SC, sheet 2, have been updated to allow for an optional use of a silicone sealant around the s-tube where it extends out past the endplate. Staff concludes that the silicone sealant does not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Drawing nos. R88000 and R880SC have been updated to remove the specific American Welding Society (AWS) revision dates from the standard references on the drawings. However, the drawing still specifies that AWS standards that must be met. Staff reviewed and accepts this editorial change.

Drawing nos. R88000 and R880SC, sheet 1, have been updated to allow for any optional jackets on the devices to have painted external surfaces. Similarly, drawing no. R880SC, sheet 5, was updated to identify optional paint for the plug cap component. Staff concludes that these changes are descriptive and do not affect the ability of package to meet the requirements of 10 CFR Part 71.

Drawing no. R88000, sheet 4, has been revised to clarify the use of 2 stainless steel roll pins in the material table. They are now described as “spring pins” and their location is now indicated

in the drawings. This change is added for clarify and staff concludes that this change does not affect the ability of package to meet the requirements of 10 CFR Part 71.

Drawing no. R880SC, sheet 1, has been updated to identify the source wire assembly as "TYP Model A424-9, A424-25, A424-25W, A424-23." This change highlights the already approved source wire assemblies that can be transported in the package.

The SAR was updated to reflect these drawing changes. The SAR was also updated to include reference to the 2009 edition of IAEA TS-R-1 and the 2015 edition of CNSC regulations, SOR/2015-145. The special form certificate and the reference to the DOT Emergency Response Guidebook was also updated.

## **CONDITIONS**

Condition No. 3.(b), "Title and Identification of Report or Application," has been updated to reflect the new consolidated safety analysis report.

Condition No. 5.(a)(2), "Description," has been updated to include the requested change in text.

Condition No. 5.(a)(3), "Drawings," has been updated to include the latest drawings.

Condition No. 10 has been updated to allow continued use of the previous revision for up to one year.

Condition No. 11 has been updated to reflect the new expiration date of the package.

The references section has been updated to include this amendment request.

## **CONCLUSION**

Based on the statements contained in the application, and the conditions listed above, 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. 9296, Revision No. 10,  
On 12-23-2015 .

**OFFICIAL USE ONLY – SECURITY RELATED INFORMATION**

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Sincerely,

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Steve Ruffin, Acting Chief  
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cc w/encls. 1 & 2: R. Boyle, Department of Transportation  
J. Shuler, Department of Energy, c/o L. F. Gelder

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