



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

June 19, 2015

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

SUBJECT: REVISION NO. 23 OF CERTIFICATE OF COMPLIANCE NO. 9035 FOR THE  
MODEL NO. 680-OP TRANSPORTATION PACKAGE

Dear Ms. Podolak:

As requested by your application dated June 2, 2015, enclosed is Certificate of Compliance (CoC) No. 9035, Revision No. 23, for the Model No. 680-OP transportation package. Changes made to the enclosed certificate are indicated by vertical lines in the margin. The staff's safety evaluation report is also enclosed.

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. 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.

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

Sincerely,

**/RA/ A. H. Hsia for**

Mark Lombard, Director  
Division of Spent Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 71-9035  
TAC Nos. L25022 and L25023

Enclosures: 1. CoC No. 9035, Rev. No. 23  
2. Safety Evaluation Report  
3. Registered Users

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



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
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**SAFETY EVALUATION REPORT**  
**Docket No. 71-9035**  
**Model No. 680-OP**  
**Certificate of Compliance No. 9035**  
**Revision No. 23**

**SUMMARY**

By application dated June 2, 2015, QSA Global, Inc. (QSA), requested amendment to Certificate of Compliance (CoC) No. 9035, for the Model No. 680-OP transportation package. QSA requested revising the CoC to include the ability to use a new version of the drawings. The drawings have been updated to include changes on the lock assembly plate attachment bolts, the end plate connecting tubes, the shell, the side frames, the lock (rear) plates, the selector ring, the door track, and the nameplate. Additionally, QSA requested removing American Welding Standard (AWS) revision dates and allowing the optional painting of steel components, excluding hardware.

As part of their request, QSA also 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. The package has been renewed for a 5 year term.

**EVALUATION**

By application dated June 2, 2015, QSA requested amendment to CoC No. 9035, for the Model No. 680-OP transportation package. QSA requested revising the CoC to include the ability to use a new version of the drawings. The drawings have been updated to include changes on the lock assembly plate attachment bolts, the end plate connecting tubes, the side frames, the shell, the lock (rear) plates, the selector ring, the door track, and the nameplate. Additionally, QSA requested removing AWS revision dates and allowing the optional painting of steel components, excluding hardware. These changes are discussed in greater detail below.

In a previous revision of the licensing drawings, the lock assembly plate attachment bolts were supposed to be either steel or stainless steel. A later revision of the drawings done in 2010 required the bolts to be 302, 304, 304L, or 305 stainless steel meeting specifications listed in a table. It was later determined by the applicant that it would not be possible to demonstrate that the bolts are in compliance with the specifications in the table. Therefore, the table has been removed from the drawings and instead QSA requests specifying that the lock assembly plate attachment bolts are compliant with the requirements of ASTM F879, austenitic alloy Group 1, in either CW or CW1 condition. Additionally, QSA requested amending the CoC to allow for continued use of the packages with the stainless steel attachment bolts for a period of 1 year until all packages in service are updated to meet ASTM F879, austenitic alloy Group 1, in either CW or CW1 condition. Staff has reviewed the specified ASTM standard and determined as the minimum tensile strengths of ASTM F879, austenitic alloy Group 1, in either CW or CW1 condition is greater than those for ASTM 302, 304, 304L, or 305 steel, it is acceptable from the structural adequacy point of view. Additionally, staff had previously approved the already

installed steel or stainless steel bolts and determined the package will continue to be operated safely as they are replaced over the course of a year.

Another requirement added in 2010 is that the connecting tubes comply with ASTM A500. Previously, these parts were original cold drawn seamless low carbon steel. However, it was discovered that the production drawings in 2010 were not updated to include the standard. It was also discovered that some of the parts received include material certifications to ASTM A513 as opposed to ASTM A500. Therefore, QSA requests that the material specification for the connecting tubes allow for the previously approved cold drawn seamless low carbon steel, and also allow for the option of either the previously approved ASTM A500 standard or ASTM A513 for packages manufactured after June 2015. Any future service of already manufactured packages will have their parts replaced to meet these standards. Staff has reviewed the ASTM A513 standard and determined in addition to the previously approved options for cold drawn seamless low carbon steel and ASTM A500, it will provide assurance of safety and meet the requirements of 10 CFR Part 71.

Additionally, in 2010, a requirement was added which specified that the side frames of the package meet ASTM A36 as opposed to the original hot rolled steel. However, it was discovered that the production drawings were not updated with this change and so the side frames of the packages fabricated after the change do not comply with ASTM A36. As the hot rolled steel was an already approved material, QSA requests updating the drawings to specify that the material specification for the side frames allows for both the hot rolled steel and ASTM A36 for those packages fabricated after June 2015. Staff reviewed the application and determined that both the previously approved and already installed hot rolled steel and ASTM A36 previously approved in 2010 provide assurance of safety and meet the requirements of 10 CFR Part 71.

Another requirement added in 2010 was that the lock (rear) plate material complies with hot rolled steel to ASTM A1018. Previously, the material was specified to be cold drawn, flat 1018 steel. Again the production drawings were not updated with these changes at that time. QSA also asserts that hot rolled steel to ASTM A36 or ASTM A1011 will perform as well as parts compliant to ASTM A1018. Therefore, QSA requests updating the materials specification for this material to continue to allow for the previously approved and already installed cold drawn, flat 1018 steel but specify that plates installed after June 2015 meet ASTM A36, ASTM A1011, or the ASTM A1018 previously approved in 2010. Staff has reviewed and confirmed that hot rolled steels meeting ASTM A36 or ASTM A1011 will perform as well as previously approved ASTM A1018 material and will therefore provide assurance of safety and meet the requirements of 10 CFR Part 71.

Additionally, in 2010, a requirement for the selector ring material was added that it meets 304 stainless steel, compliant to CF-8 per ASTM A743. Previously, the material was approved as stainless steel not compliant to that standard. In this case, the production drawing was changed, but some of the parts accepted for use on the package in October 2010 were not certified to ASTM A743. These parts are accepted as 304 stainless steel without certification to ASTM A743. QSA requests updating the materials specification for the selector ring to be 304 stainless steel material, but that rings made after October 2010 must comply with the already approved CF-8 per ASTM A743. As both 304 stainless steel and 304 stainless steel complying with CF-8 per ASTM A743 have been previously approved, staff believes the use of these materials will continue to provide assurance of safety and meet the requirements of 10 CFR Part 71.

In 2010, a requirement to comply with ASTM A36 for the shell was added. Previously, the shell was specified to be hot rolled steel. The fabrication drawings were not updated at that time, and the parts accepted were compliant to ASTM A1018 as opposed to ASTM A36. Material compliant to ASTM A1018 is an appurtenant material for hot rolled sheets and strips. Therefore, QSA requested updating the drawing to allow for the hot rolled steel material and to also allow for shells made after June 2015 that are compliant with ASTM A36. Staff has reviewed ASTM A1018 and confirms that it is a form of hot rolled steel material. Staff additionally confirmed that the previously approved and already installed hot rolled steel material and the 2010 approval of material meeting ASTM A36 will continue to provide assurance of safety and meet the requirements of 10 CFR Part 71.

Another change requested by QSA on the shell is the weld specification called out on the drawings. The weld symbol has been changed to the correct symbol. A clarification was also added through a note in the drawing to specify that the welding will be completed to AWS D1.3 or AWS D1.1 as well as inspected by weld inspectors qualified to ASNT SNT-TC-1A. QSA indicated that although not specified previously, the welding on the shell assembly has always been performed and inspected to these standards and therefore are in compliance with the CoC. Staff reviewed the note and the corrected weld symbol and determined these clarifications and corrections will continue to meet the requirements of 10 CFR Part 71.

During continued review of the drawings, it was noted by the applicant that the quantity specified for the door track is currently listed as "2" when it should be "4." Additionally, a review was completed by the applicant on the nameplate and QSA requested changing note 9 on Drawing No. R680-OP, sheet 2, to exclude the nameplate. This note specifies meeting ASTM standards while the nameplate material is simply fireproof steel. Staff agrees that the steel fireproof material is adequate for the nameplate and has already required the material to be fireproof in Condition No. 7 of the CoC. The final changes requested are to remove all the AWS revision dates from the standards referenced in the drawings and to allow for optional painting of steel components, excluding hardware. Staff agrees that these changes would not affect the ability of the package to meet the structural and materials requirements of 10 CFR Part 71.

## **CONDITIONS**

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

Condition No. 11 has been changed to allow authorization of stainless steel lock assembly plate attachment bolts for the period of a year.

Condition No. 12 used to be Condition No. 11 and has been updated to allow for continued use of the previous revision of this certificate for a year.

Condition No. 13 used to be Condition No. 12 and has been updated to reflect the new expiration date of October 31, 2020.

The references section has been updated to include this 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. 9035, Revision No. 23,  
on 6/19/15.

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