71-6613

QSA Global, Inc.
40 North Avenue
Burlington, MA 01803
Telephone: (781) 272-2000
Toll Free: (800) 815-1383
Facsimile: (781) 273-2216

11 June 2014

John A. Vera, Ph.D.
Project Manager
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
11555 Rockville Pike, Mailstop: EBB-3D-02M
Rockville, MD 20852

RE: USA/6613/B(U)-96 (Current Revision 16)

Dear Dr. Vera:

QSA Global, Inc. requests an expedited amendment of the above-referenced certificate for the Model 702 Type B(U) package. We request that this amendment action be separate from, and precede, the amendment action (docket # 71-6613) currently in process with your office. This amendment corrects the ASTM reference on the product drawings for the carbon steel tubing used for the cage frame.

During the review of the SAR for this correction we also noted that there was an error in Table 2.2.A in that we incorrectly included "(304)" in the description of the carbon steel tubing. The carbon steel tubing nomenclature has been corrected in the attached.

Enclosed with this letter is the revised drawing package (R70290 Rev X), the revised page for the SAR, and the assessment for the ASTM reference. Should you have any additional questions or wish to discuss this submission after receipt please feel free to contact me.

Sincerely,

Michael Fuller

Michael Fuller
Director, Regulatory Affairs/Quality Assurance
Ph: (781) 505-8231
Fax: (781) 359-9191
Email: Mike.Fuller@qsa-global.com

S. Cremin — Engineering Approval

11 JUN 2014 — Date

Enclosures:

- SAR 13, Page 2.2
- Descriptive Drawings R70290, Rev X
- Discussion on Model 702 Cage Tubing Material

cc: ATTN: Document Control Desk

NMSS01

2.2 Materials

2.2.1 Material Properties and Specifications

Table 2.2.A lists the relevant mechanical properties (at ambient temperature) of the principal materials used in the Model 702 transport package. The sources in the last column are listed after the tables.

Table 2.2.A: Mechanical Properties of Principal Package Materials

Material	Tensile Strength	Yield Strength	Elongation	Source
Depleted Uranium	65 ksi	30 ksi	12%	Reference #2
Copper	25 ksi	9 ksi	25%	Reference #3, p. 224
Stainless steel Plate (304)	75 ksi	30 ksi	40%	ASTM A240/A240M-08
Stainless steel Tubing (304)	75 ksi	30 ksi	35%	ASTM A511/A511-08
Seamless Stainless Steel Tubing (304)	Mechanical property requirements do not apply to tubing smaller than 1/8 in inside diameter or 0.015 in thickness. NA			ASTM A269-08
Carbon steel tubing	42-90 ksi	30-70 ksi	10-15%	ASTM A513Type 1a, 1b or 2
Carbon Structural Steel	58-80 ksi	36 ksi	20-23%	ASTM A36/A36M-08
Threaded Steel Rod	75 ksi	30 ksi	30%	ASTM A193 Class 1
Tungsten	142 ksi	109 ksi	NA	www.matweb.com

Resource references:

1. American Society for Metals. Metals Handbook, Volume 1, Tenth Edition. Ohio: Materials Park, 1990.

2. Lowenstein, Paul. *Industrial Uses of Depleted Uranium*. American Society for Metals. Metals Handbook, Volume 3, Ninth Edition.

3. American Society for Metals. Metals Handbook, Volume 2, Tenth Edition. Ohio: Materials Park, 1990

2.2.2 Chemical, Galvanic or Other Reactions

The materials used in the construction of the Model 702 transport package are depleted uranium metal, steel (carbon and stainless), tungsten, and copper. To prevent the possible formation of a eutectic alloy from steel and depleted uranium during the Hypothetical Accident Conditions thermal scenario, defined by 10 CFR 71.73(c)(4), the copper is used as a separator for all steel-uranium interfaces. With this construction, there will be no significant chemical or galvanic reaction between package components during normal or hypothetical accident conditions of transport.

Security Related Information
Figure Withheld Under 10 CFR 2.390

QSA GLOBAL 40 NORTH AVE, BURLINGTON, MA 01803			DESCRIPTIVE DRAWING
TITLE	MODEL 702 ISOTOPE SHIELD SHIPPING CONTAINER		
SIZE B	DWG. NO. R70290	SHEET 1 OF 9	REV X
	SCALE: 1:4		

Security Related Information
Figure Withheld Under 10 CFR 2.390

QSA GLOBAL 40 NORTH AVE, BURLINGTON, MA 01803			DESCRIPTIVE DRAWING
TITLE	MODEL 702 ISOTOPE SHIELD SHIPPING CONTAINER		
SIZE B	DWG. NO. R70290	SHEET 2 OF 9	REV X
	SCALE: 1:6		

Security Related Information
Figure Withheld Under 10 CFR 2.390

QSA GLOBAL 40 NORTH AVE, BURLINGTON, MA 01803			DESCRIPTIVE DRAWING
TITLE	MODEL 702 ISOTOPE SHIELD SHIPPING CONTAINER		
SIZE B	DWG. NO. R70290	SHEET 3 OF 9	REV X
	SCALE: 1:6		

Security Related Information
Figure Withheld Under 10 CFR 2.390

QSA GLOBAL 40 NORTH AVE, BURLINGTON, MA 01803			DESCRIPTIVE DRAWING
TITLE	MODEL 702 ISOTOPE SHIELD SHIPPING CONTAINER		
SIZE B	DWG. NO. R70290	SHEET 4 OF 9	REV X
	SCALE: 1:6		

Security Related Information
Figure Withheld Under 10 CFR 2.390

QSA GLOBAL 40 NORTH AVE, BURLINGTON, MA 01803			DESCRIPTIVE DRAWING
TITLE	MODEL 702 ISOTOPE SHIELD SHIPPING CONTAINER		
SIZE B	DWG. NO. R70290 SCALE: 1:4	SHEET 5 OF 9	REV X

Security Related Information
Figure Withheld Under 10 CFR 2.390

QSA GLOBAL 40 NORTH AVE, BURLINGTON, MA 01803		DESCRIPTIVE DRAWING
TITLE	MODEL 702 ISOTOPE SHIELD SHIPPING CONTAINER	
SIZE B	DWG. NO. R70290 SCALE: 1:4	SHEET 6 OF 9
		REV X

Security Related Information
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UNLESS OTHERWISE SPECIFIED	ALL DIMENSIONS ARE INCHES TOLERANCES: LINEAR ±1/16 ANGULAR ±5°
QSA GLOBAL 40 NORTH AVE, BURLINGTON, MA 01803	DESCRIPTIVE DRAWING
TITLE	MODEL 702 ISOTOPE SHIELD SHIPPING CONTAINER
SIZE B	DWG. NO. R70290
	SCALE: 1:2
	SHEET 7 OF 9
REV	X

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Figure Withheld Under 10 CFR 2.390

QSA GLOBAL

40 NORTH AVE, BURLINGTON, MA 01803

DESCRIPTIVE DRAWING

TITLE MODEL 702 ISOTOPE SHIELD SHIPPING CONTAINER

SIZE	DWG. NO.	REV
B	R70290	X
	SCALE: 1:2	SHEET 8 OF 9

Security Related Information
Figure Withheld Under 10 CFR 2.390

QSA GLOBAL

40 NORTH AVE, BURLINGTON, MA 01803

DESCRIPTIVE DRAWING

TITLE MODEL 702 ISOTOPE SHIELD SHIPPING CONTAINER

SIZE	DWG. NO.	REV
B	R70290	X
	SCALE: 1:2	SHEET 9 OF 9

Discussion on Cage Tube Material

The material currently specified on the drawing R70290 is steel tubing 1-1/4 square with 0.120 wall made per ASTM A513-08a, Type 1b or 2. Contrary to this requirement, QSA Global, Inc.'s supplier has been providing material certified to ASTM A513 AWHR.

Section 12 of ASTM A513 indicates AWHR as Type 1a material. The following is taken from ASTM A513- paragraph 12.1:

Type Number	Code Letters	Description
1a	A.W.H.R.	"**A**s-**W**elded" from **H**ot-**R**olled steel (with mill scale)
1b	A.W.P.O.	"**A**s-**W**elded" from Hot-Rolled steel **P**ickled and **O**iled (with mill scale removed)
2	A.W.C.R.	"**A**s-**W**elded" from **C**old-**R**olled steel

ASTM A513 gives minimum mechanical properties in Table S5.1 in the supplementary requirements section. The table shows values based on material grade and type for round tubing.

All three material types given in ASTM A513 paragraph 12.1 (see table above) are refinements of the "As-Welded" tube material. The refinement for the type 1 material is to have the material supplied "with or without mill scale" and "with or without being pickled and oiled". Neither of these refinements will change the minimum mechanical properties given in Table S5.1. The type 1a and type 1b materials only differ in terms of corrosion resistance during shipment from and warehousing at the materials supplier.

The type 1a and the type 2 materials will have similar corrosion resistance since both are not pickled and oiled. Since the tubing is painted after assembly, we can expect the material to respond to corrosion the same as the type 2 material which is specified on the drawing and also not pickled and/or oiled.

All three material types are structurally equivalent and are expected to perform as intended for a successfully tested and approved Type-B transport package per 10CFR Part 71. The Model 702 cage tube material, made to either type 1a, 1b or 2, all meet the minimum mechanical properties given in ASTM A513.

We do not request any specific adjustments or deviations for the values given in table S5.1 from the material producer for the Model 702 cage structure application.

11 June 2014