



U.S. Department  
of Transportation  
**Pipeline and  
Hazardous Materials  
Safety Administration**

**IAEA CERTIFICATE OF COMPETENT AUTHORITY  
SPECIAL FORM RADIOACTIVE MATERIALS  
CERTIFICATE USA/0619/S-96, REVISION 8**

East Building, PHH-23  
1200 New Jersey Avenue Southeast  
Washington, D.C. 20590

This certifies that the sources described have been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency<sup>1</sup> and the United States of America<sup>2</sup> for the transport of radioactive material.

1. Source Identification - QSA Global, Inc. Model Numbers XN146, AXN146, and XN146/2 (All models manufactured on or after February 27, 1981).
2. Source Description - Cylindrical single encapsulations made of stainless steel with a stainless steel end cap and tungsten inert gas or laser seal welded. Approximate outer dimensions are 6.1 mm (0.24 in.) in diameter and 7.2 mm (0.28 in.) in length. Minimum wall thickness is 0.65 mm (0.026 in.). Construction shall be in accordance with attached QSA Global, Inc. Drawing No. RBA10623, Rev. E.
3. Radioactive Contents - No more than either 3.7 GBq (0.1 Ci) of Americium-241 or 18.5 GBq (0.5 Ci) of Californium-252. The Am-241 is in oxide form and mixed with a beryllium powder and pressed into a solid pellet. The Cf-252 is in the form of an oxide pressed into a pellet, a solid metal wire, or a ceramic.
4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations<sup>1</sup> shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors in the United States exporting shipments under this certificate shall satisfy the applicable requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires on February 28, 2017.

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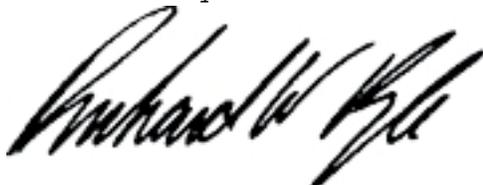
<sup>1</sup> "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

<sup>2</sup> Title 49, Code of Federal Regulations, Parts 100-199, United States of America.

**CERTIFICATE USA/0619/S-96, REVISION 8**

This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the February 09, 2012 petition by QSA Global, Inc., Burlington, MA, and in consideration of other information on file in this Office.

Certified By:



**Feb 17 2012**

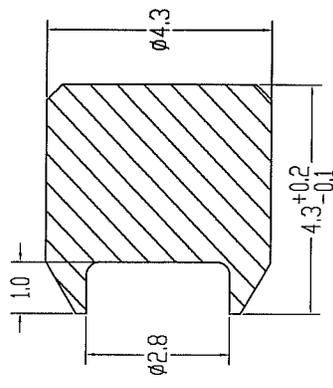
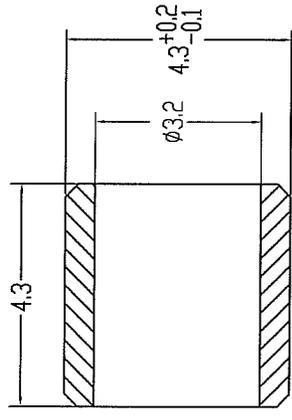
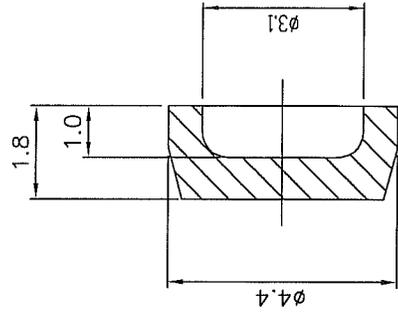
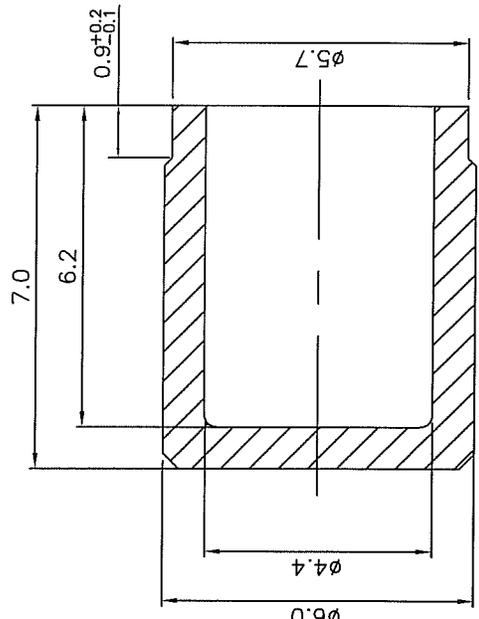
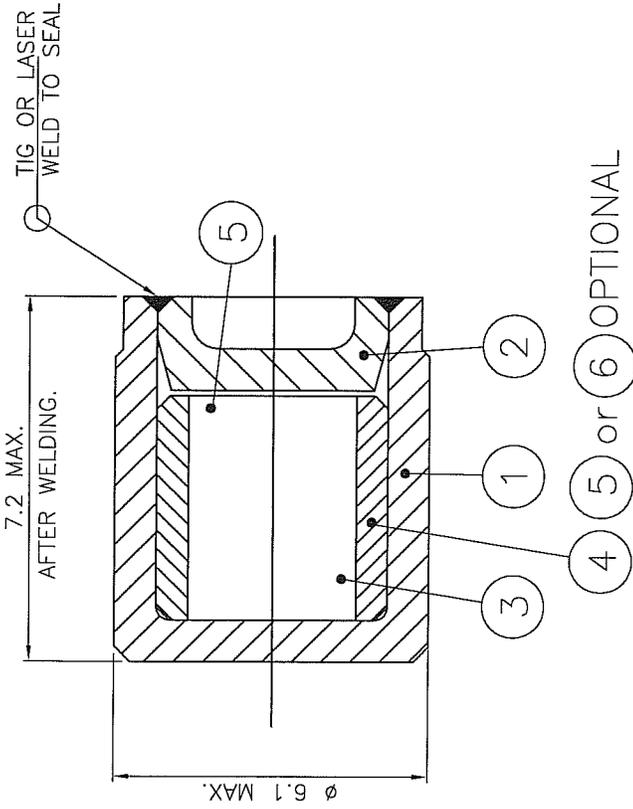
(DATE)

 Dr. Magdy El-Sibaie

Associate Administrator for Hazardous Materials Safety

Revision 8 - Issued to extend the expiration date.

Item #	Description	Qty.
1	SHEATH BODY STAIN.STL.	1
2	SHEATH LID STAIN.STL.	1
3	ACTIVE MATERIAL	AR
4	SPACER(OPTIONAL) STAIN.STL.	AR
5	CERAMIC FIBER FILLER(OPTIONAL)	AR
6	ALUMINUM DR STEEL FILLER (XN146/2 ONLY)	1



ITEM 2

ITEM 1

ITEM 4

ITEM 6

 40 NORTH AVE, BURLINGTON, MA 01803	<b>DESCRIPTIVE DRAWING</b>	
	TITLE XN146, AXN146 & XN146/2 CAPSULE ASSY	
APPROVALS <i>D. L. H.</i> <i>R. P. S.</i>	DATE 11A-02 11A-08	SIZE A
DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED TOLERANCES: X ±0.5 X.X ±0.1 X.XX ±0.05 ANGULAR ±5°		REV E
ERF # 1878		SCALE: NONE SHEET 1 OF 1



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**CERTIFICATE NUMBER:** USA/0619/S-96, Revision 8

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