



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE NUMBER USA/0670/S, REVISION 1**

This certifies that the source described has been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency¹ and the United States of America² for the transport of radioactive materials.

1. Source Identification - AEA Technology QSA, Inc. Model X.220 (Manufactured on or after April 1, 1981).
2. Source Description - Cylindrical double encapsulation made of stainless steel and tungsten inert gas seal welded. Approximate exterior dimensions are 9.14 mm (0.36 in.) in diameter and 14.73 mm (0.58 in.) in length. Minimum wall thickness of the outer encapsulation is 0.57 mm (0.02 in.). Construction shall be in accordance with attached AEA Technology QSA, Inc. Drawing No. RBA10036, Rev. A.
3. Radioactive Contents - No more than 4.6 GBq (124.2 mCi) of Americium-241 and 4.6 GBq (124.2 mCi) of Cesium-137. The Am-241 is in the form of an oxide mixed with a beryllium powder that is then pressed into a solid pellet. The Cs-137 is a cesium silicate formed in a glass matrix. Ceramic fiber packing material is inserted between the Am-241:Be and the Cs-137.
4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations¹ shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors and consignees in the United States exporting or importing shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires April 30, 2009. On November 30, 2004, this certificate supersedes, in its entirety, all previously issued revisions of USA/0670/S.

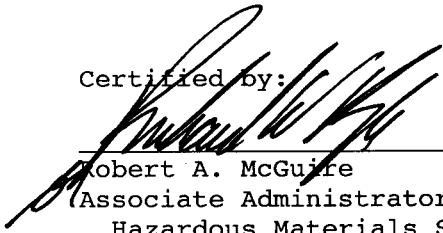
1 "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

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

CERTIFICATE USA/0670/S, REVISION 1

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 petition and information dated October 1, 2004 submitted by AEA Technology QSA, Inc., Burlington, MA, and in consideration of other information on file in this Office.

Certified by:



Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

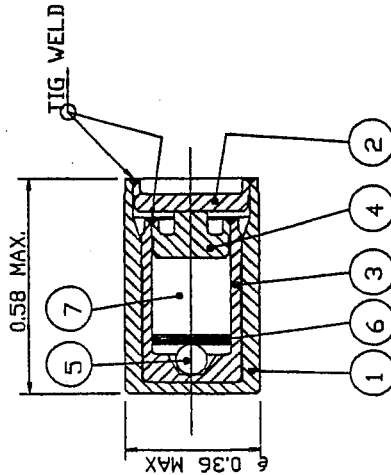
OCT 15 2004

(DATE)

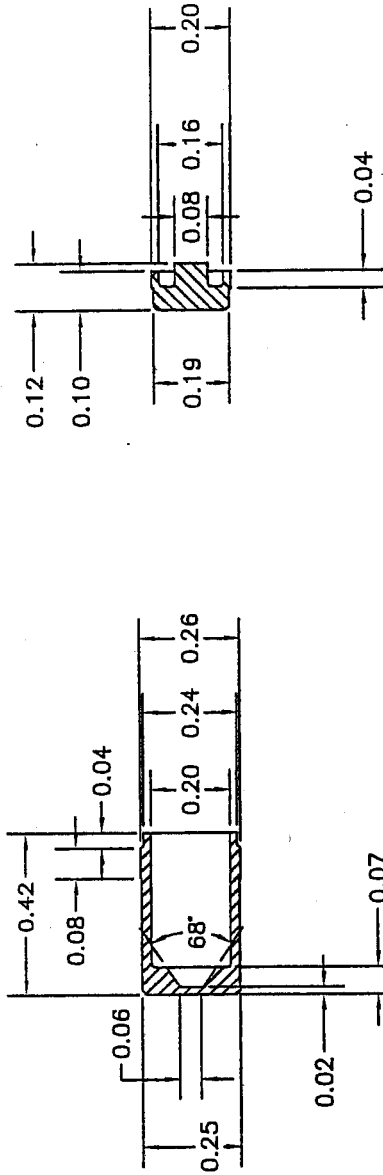
Revision 1 - Issued to specify manufacturing dates.

Item No	Description	No off
1	SHEATH BODY STAIN.STL.	1
2	SHEATH LID STAIN.STL.	1
3	CELL BODY STAIN.STL.	1
4	CELL LID STAIN.STL.	1
5	0.08 DIA BEAD- SEE NOTE	1
6	CERAMIC FIBRE PACKING DISC	A/R
7	ACTIVE MATERIAL -AmBe	A/R

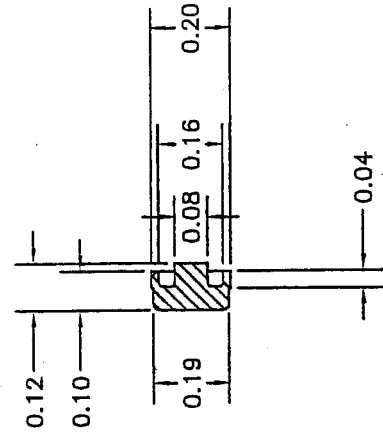
NOTE:
ITEM 5 MATERIAL
Cs-137 BONDED IN GLASS



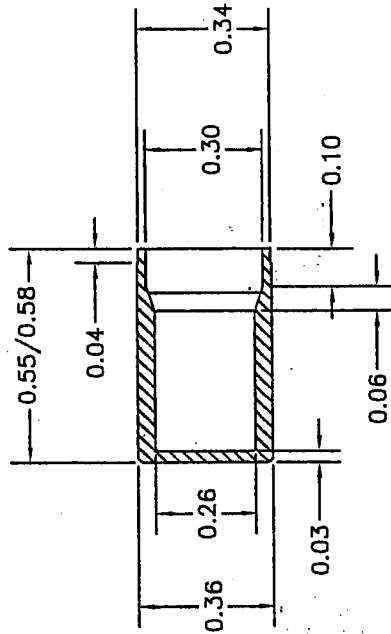
X220 ASSEMBLY



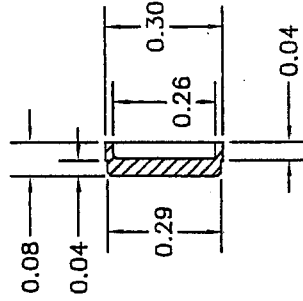
3 CELL BODY



4 CELL LID



1 SHEATH BODY



2 SHEATH LID

APPROVALS	
<i>R. Mann</i>	10 MAR 07
<i>L. P. DeBe</i>	10 MAR 07

AEATECHNOLOGY
QSA
40 NORTH AVE, BURLINGTON, MA 01803

DESCRIPTIVE DRAWING

DIMENSIONS IN INCHES
TOLERANCES:
FRACTIONS ±1/32
X ± 0.1
XX ± 0.05
XXX ± 0.005

TITLE	X220 CAPSULE ASSEMBLY	
SIZE	DWG. NO.	REV
A	RBA10036	A
SCALE:	NONE	SHEET 1 OF 1

ERF #	772
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