



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

**IAEA CERTIFICATE OF COMPETENT AUTHORITY  
SPECIAL FORM RADIOACTIVE MATERIALS  
CERTIFICATE USA/0526/S-96, REVISION 2**

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

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 Agency<sup>1</sup> and the United States of America<sup>2</sup> for the transport of radioactive material.

1. Source Identification - J.L. Shepherd & Associates Model 7810-0109-R.
2. Source Description - The source is a double encapsulation of Type 304 stainless steel, with outer dimensions of diameter 9.53 mm (0.375 in.) and length 211.3 mm (8.318 in.). The inner capsule is 7.94 mm (0.3125 in.) in diameter by 207.4 mm (8.164 in.) long. End plugs on both capsules are sealed by tungsten inert gas welds. Wall thickness is 0.51 mm (0.020 in.) for both capsules. Base plugs are 1.02 mm (0.040 in.) thick; closure plugs are 1.57 mm (0.62 in.) thick. Source is to be manufactured in accordance with attached J.L. Shepherd & Associates Drawing Nos. A-0109-R and A-0109-R-CS-1.
3. Radioactive Contents - No more than 81.4 TBq (2200 Ci) of Co-60 in the form of 6.35 mm (0.25 in.) diameter nickel-plated metal rods. Stainless steel spacers are used to fill any void spaces.
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 April 30, 2012.

---

<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/0526/S-96, REVISION 2**

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 April 16, 2007 petition by J.L. Shepherd, San Fernando, CA, and in consideration of other information on file in this Office.

Certified By:



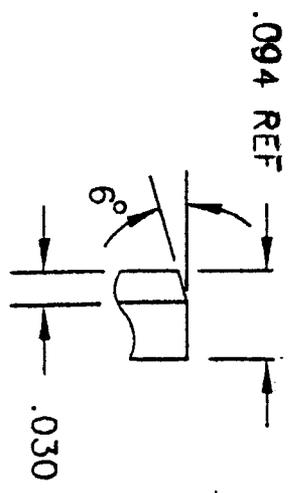
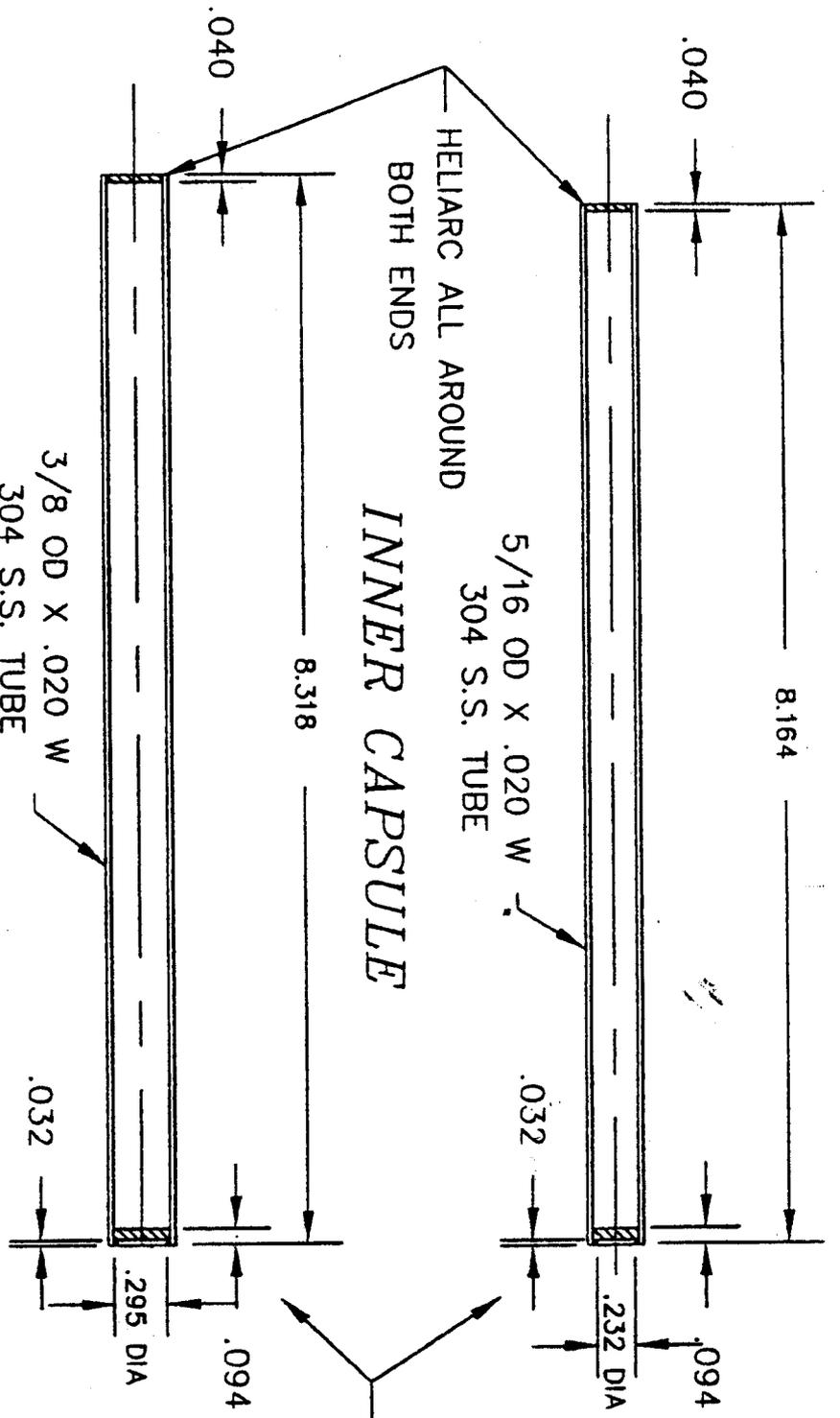
**May 04 2007**

(DATE)

Bob Richard

Deputy Associate Administrator for Hazardous Materials Safety

Revision 2 - Issued to extend the expiration date.



THIS END - INSERT + WELD END  
CAPS AFTER LOADING W/Co-60

INNER & OUTER CAPSULE

NOTES:

1. END CAPS - 304 SS
2. SOURCES CERTIFIED "SPECIAL FORM"
3. END CAPS HAVE .002 REGISTER  
.001 CLEARANCE FIT
4. BEFORE LOADING, 1 END OF EA TUBE  
WELDED & HELIUM LEAK TESTED TO SENSITIVITY  
OF  $1 \times 10^{-6}$  CC/MIN
5. REMOVEABLE CONTAMINATION (LEAK TEST)  
AFTER LOADING  $\leq 5 \times 10^{-3}$   $\mu$ ci
6. SCRIBE / ENGRAVE 3/32 HIGH LETTERS:

JLS 7810-109R, \_\_\_\_\_ CI Co-60  
C/M/ DATE \_\_\_\_\_

J. L. SHEPHERD and Associates			
DRAWN BY J. TRAN	DATE 09-10-96	APPROVED BY 	SCALE NONE
7810-109R SERIES Co-60 SOURCE CAPSULE			
MODEL 109 R		A-0109-R	

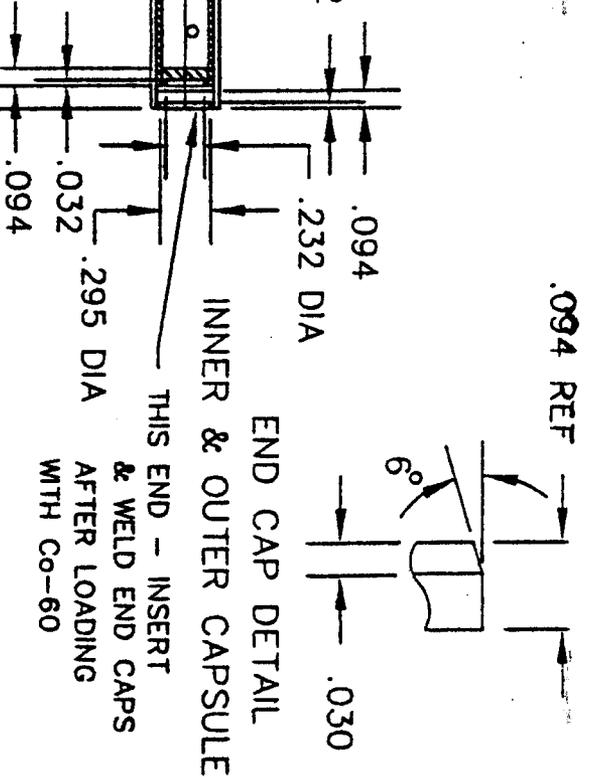
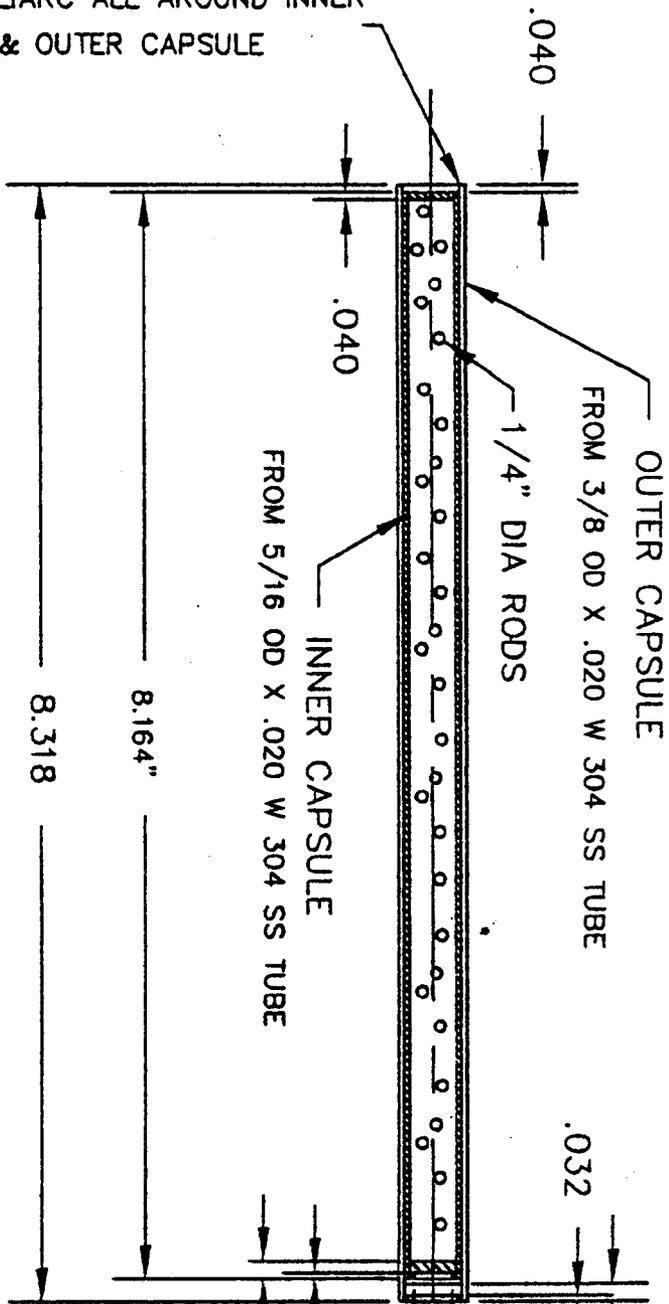
HELIARC ALL AROUND INNER  
& OUTER CAPSULE

NOTES:

1. END CAPS - 304 SS
2. SOURCES CERTIFIED "SPECIAL FORM"
3. END CAPS HAVE .002 REGISTER  
.001 CLEARANCE FIT
4. BEFORE LOADING, 1 END OF EA TUBE  
WELDED & HELIUM LEAK TESTED TO SENSITIVITY  
OF  $1 \times 10^{-6}$  CC/MIN
5. REMOVEABLE CONTAMINATION (LEAK TEST)  
AFTER LOADING  $\leq 5 \times 10^{-3}$   $\mu$ CI
6. SCRIBE / ENGRAVE 3/32" HIGH LETTERS:

JLS 7810-109 R. \_\_\_\_\_ CI Co-60

S/N \_\_\_\_\_ DATE \_\_\_\_\_



.094 REF

END CAP DETAIL

INNER & OUTER CAPSULE

THIS END - INSERT  
& WELD END CAPS  
AFTER LOADING  
WITH Co-60

J. L. SHEPHERD and Associates

DRAWN BY D. TRAN	DATE 09-10-96	APPROVED BY <i>[Signature]</i>	SCALE NONE
7810-109R SERIES Co-60 SOURCE CAPSULE			
MODEL 109R		A-0109-R-CS-1	



U.S. Department  
of Transportation

**Pipeline and  
Hazardous Materials  
Safety Administration**

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

**CERTIFICATE NUMBER:** USA/0526/S-96, Revision 2

**ORIGINAL REGISTRANT(S):**

Ms. Mary Shepherd  
Vice President  
J.L. Shepherd  
1010 Arroyo Ave.  
San Fernando, 91340-1822  
USA