



U.S. Department
of Transportation

Pipeline and
Hazardous Materials
Safety Administration

East Building, PHH-23
1200 New Jersey Ave, SE
Washington, D.C. 20590

IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS

CERTIFICATE USA/0464/S-96, REVISION 5

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 material.

1. Source Identification - J.L. Shepherd & Associates Model 6810-190.
2. Source Description - Cylindrical triple encapsulation made of Type 304 stainless steel (outer encapsulation) and two Type 316 stainless steel inner double encapsulations, all heliarc seal welded. The outer encapsulation contains a double encapsulation at each end, separated by a spacer bar. Approximate exterior dimensions are 41.9 mm (1.65 in.) in diameter and 401.8 mm (15.82 in.) in length. Construction shall be in accordance with attached J.L. Shepherd and Associates Drawing Nos. A-0068-190-10 and A-0068-190.
3. Radioactive Contents - No more than 166.5 TBq (4,500.0 Ci) of Cesium-137. The Cs-137 is in the form of cesium chloride pellets.
4. Management System Activities - Records of Management System activities required by Paragraph 306 of the IAEA regulations 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 requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires on December 31, 2023. Previous editions which have not reached their expiration date may continue to be used.

¹ "Regulations for the Safe Transport of Radioactive Material, 2012 Edition, No. SSR-6" published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

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

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This certificate is issued in accordance with paragraph(s) 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the November 20, 2018 petition by J.L. Shepherd & Associates, San Fernando, CA, and in consideration of other information on file in this Office.

Certified By:

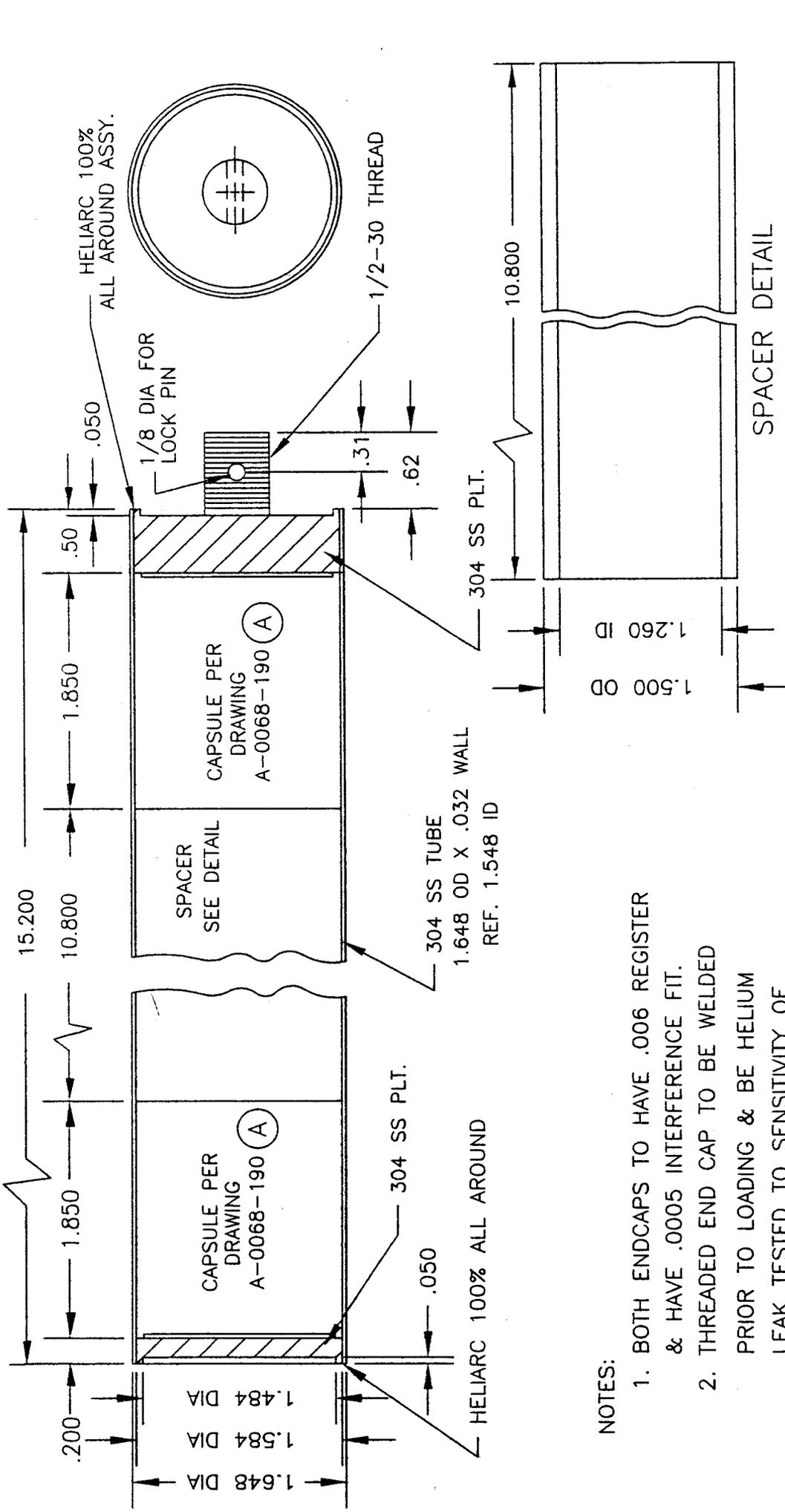


December 20, 2018

(DATE)

 William Schoonover
Associate Administrator for Hazardous
Materials Safety

Revision 5 - Issued to extend the expiration date.



SPACER DETAIL

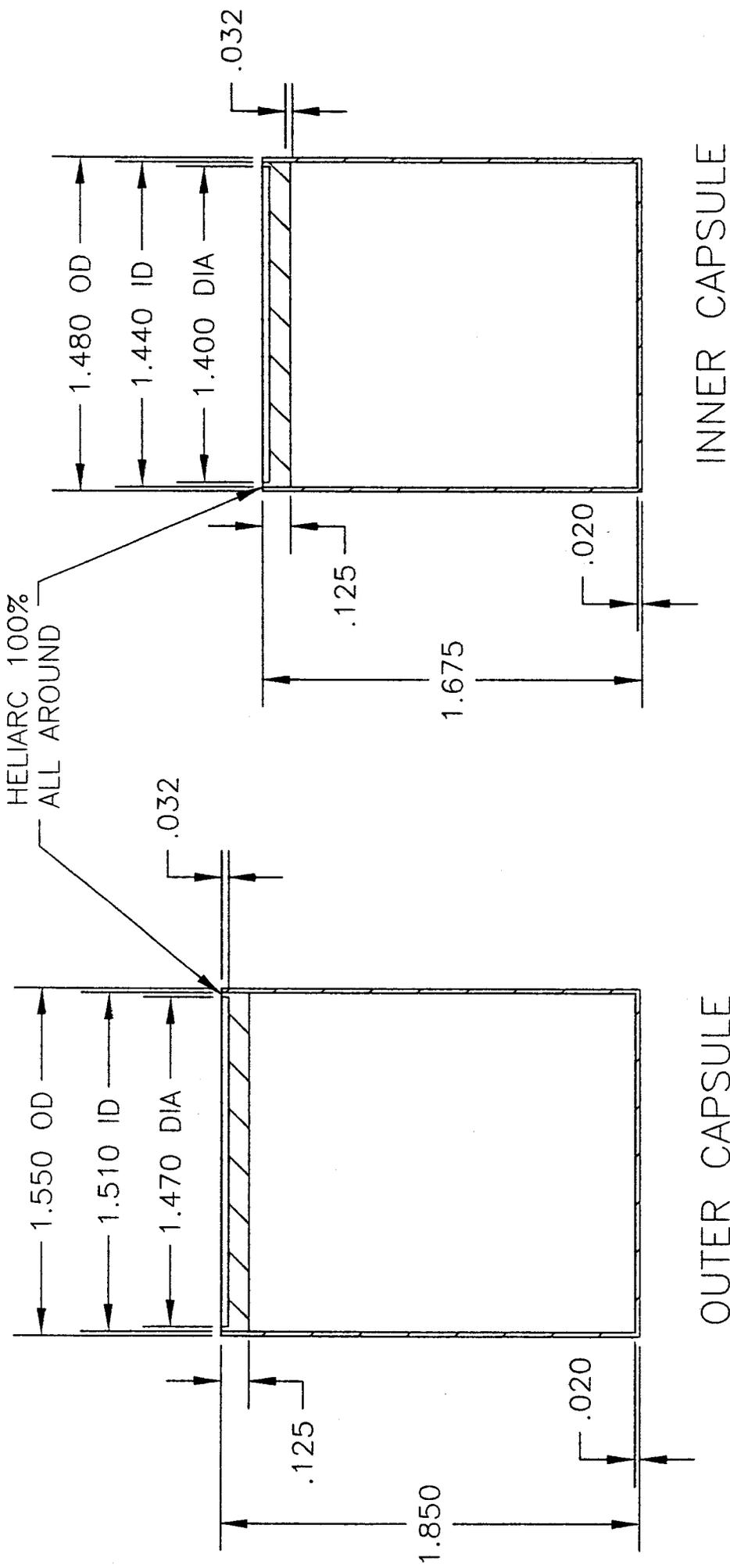
MATL = 1.5 OD X .12 W AL ALY TUBE

NOTES:

1. BOTH ENDCAPS TO HAVE .006 REGISTER & HAVE .0005 INTERFERENCE FIT.
2. THREADED END CAP TO BE WELDED PRIOR TO LOADING & BE HELIUM LEAK TESTED TO SENSITIVITY OF 1×10^{-7} CC/Min.
3. LOCK PIN HOLE TO BE MATCH DRILLED WITH TUNGSTEN SOURCE HOLDER
4. COMPLETED CAPSULE TO HAVE 5 x 10 mCi COMTAMINATION.
5. COMPLETED CAPSULE MUST PASS HELIUM LEAK TEST OR LIQUID N₂ BUBBLE TEST.
6. CAPSULE TO BE CERTIFIED "SPECIAL FORM"

REV. (A) 8-06-98 DWG. NUMBER CORRECTION

J. L. SHEPHERD and Associates			
DRAWN BY	DATE	APPROVED BY	SCALE
D. TRAN	10-7-92	<i>[Signature]</i>	NONE
TYPE 6810-190-10 TRIPLE SOURCE			
CAPSULE TYPE 6810-2000 Ci		Cs-137 A-0068-190-10	



OUTER CAPSULE

INNER CAPSULE

NOTED:

1. MATL 316L S.S.
2. PLUGS .0005 INTERFERENCE FIT.
3. REMOVEABLE CONTAMINATION $\leq 5 \times 10^{-4}$ mCi
4. INNER & OUTER MUST PASS BUBBLE TEST & HELIUM LEAKS TEST AFTER FABRICATION
5. CHEMICAL FORM OF CS-137 IS CsCi SPECIFICATION ≥ 12 Ci/gm WT CsCi < 100g

J. L. SHEPHERD and Associates			
DRAWN BY D. TRAN	DATE 10-7-92	APPROVED BY 	SCALE NONE
TYPE 6810-190 CAPSULES			
			A-0068-190



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ORIGINAL REGISTRANT(S) :

J.L. Shepherd & Associates
1010 Arroyo Ave.
San Fernando, CA, 91340-1822
USA