



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

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE USA/0559/S-96, REVISION 3**

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 Agency¹ and the United States of America² for the transport of radioactive material.

1. Source Identification - J.L. Shepherd & Associates Model Nos. 6810G - Types I, II, III, IV, V and VI.
2. Source Description - Cylindrical double encapsulations made of Type 314 stainless steel and seal heliarc welded. Approximate outer dimensions are 8.6 mm (0.34 in.) to 16.0 mm (0.63 in.) in diameter and 16.0 mm (0.63 in.) to 42.3 mm (1.665 in.) in length. Sources 6810G - Type I, II, III, IV, V and VI shall be constructed in accordance with attached J.L. Shepherd & Associates Drawing Nos. A-0659-6810G-1, -2, -3, -4, -5, -6, respectively.
3. Radioactive Contents - No more than 370.0 GBq (10.0 Ci) of Cesium-137 as cesium chloride, in pellet or ceramic form.
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 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 October 31, 2020.

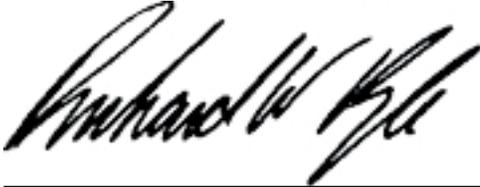
¹ "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

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

CERTIFICATE USA/0559/S-96, REVISION 3

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 October 06, 2015 petition by J.L. Shepherd & Associates, San Fernando, CA, and in consideration of other information on file in this Office.

Certified By:



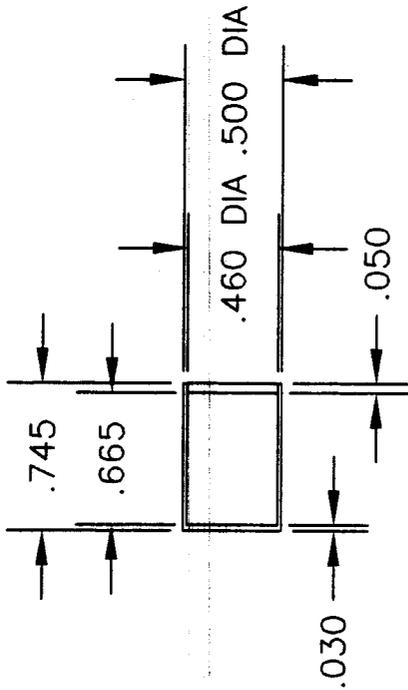
Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Oct 13 2015
(DATE)

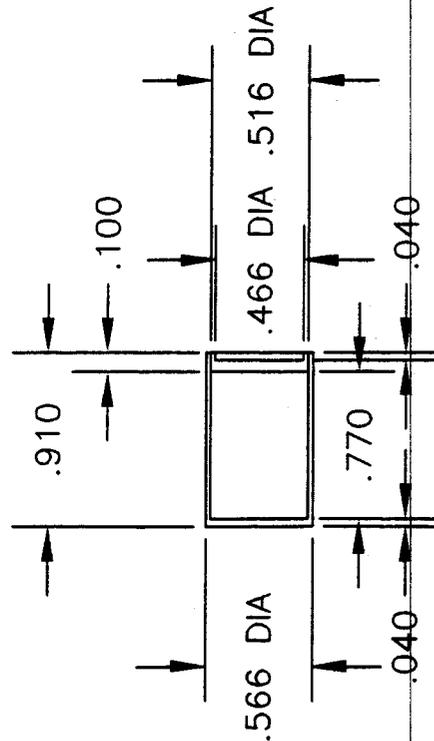
Revision 3 - Issued to renew the expiration date.

NOTE:

1. MATL = 304 STAINLESS STL.
2. END CAPS TO HAVE .006 REGISTER & .0005 INTERFERENCE FIT, 100% HELIARC WELDED.
3. CAPSULES TO BE CERTIFIED "SPECIAL FORM" PER US DOT 10CFR173.469, 10-1-95 EDITION AND IAEA SAFETY SERIES NO. 6, 1985 EDITION AS AMENDED 1990.
4. REMOVEABLE CONTAMINATION $\leq 5 \times 10^{-5}$ uCi. PER ANSI N 43.6-1997 AND ISO 9978, 1992-02-15.
5. INSIDE CONTENTS - CESIUM-137 CHEMICAL FORM - CHLORIDE OR CERAMIC
6. MAXIMUM ACTIVITY - 370 GBq (10 Ci.) CESIUM-137.
7. ANSI N43.6-1997 AND ISO 2919, 1980-005-01 PERFORMANCE CLASSIFICATION C-43434.



INNER CAPSULE

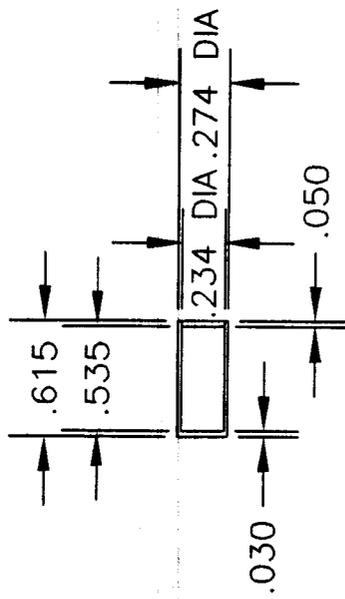


OUTER CAPSULE

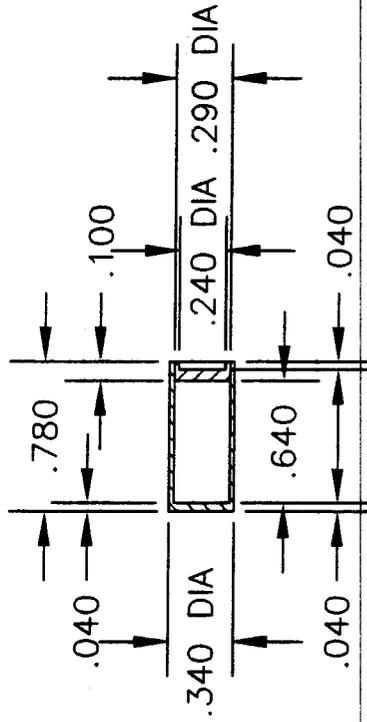
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCE		J. L. SHEPHERD and Associates	
DECIMALS	FRACTIONS	MODEL	DWG NO.
.X ± .030	ANGULAR	A	A-0659-6810G-1
.XX ± .010	± 1/16	6810G-TYPE I	REV
.XXX ± .005	± 0° 30'	INNER & OUTER SOURCE CAPSULE 6810G - TYPE I	1
DRAWN	DATE	SCALE	SHEET
D. TRAN	02JUN98	FULL	1 OF 1
APPROVED	JUN 2, 98		
M. Shepherd			

NOTE:

1. MATL = 304 STAINLESS STL.
2. END CAPS TO HAVE .006 REGISTER & .0005 INTERFERENCE FIT, 100% HELIARC WELDED.
3. CAPSULES TO BE CERTIFIED "SPECIAL FORM" PER US DOT 10CFR173.469, 10-1-95 EDITION AND IAEA SAFETY SERIES NO. 6, 1985 EDITION AS AMENDED 1990.
4. REMOVEABLE CONTAMINATION $\leq 5 \times 10^{-5}$ uCi. PER ANSI N 43.6-1997 AND ISO 9978, 1992-02-15.
5. INSIDE CONTENTS - CESIUM-137
CHEMICAL FORM - CHLORIDE OR CERAMIC
6. MAXIMUM ACTIVITY - 370 GBq (10 Ci.) CESIUM-137.
7. ANSI N43.6-1997 AND ISO 2919, 1980-005-01 PERFORMANCE CLASSIFICATION C-43434.



INNER CAPSULE

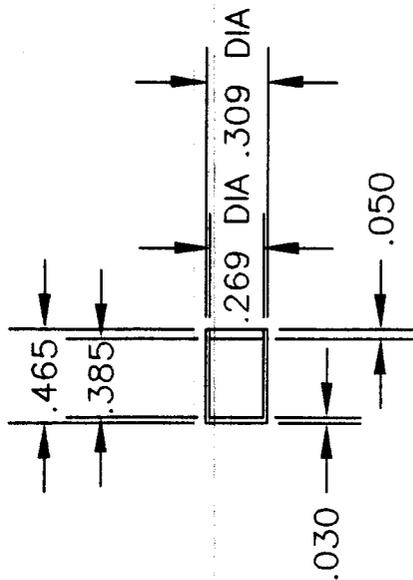


OUTER CAPSULE

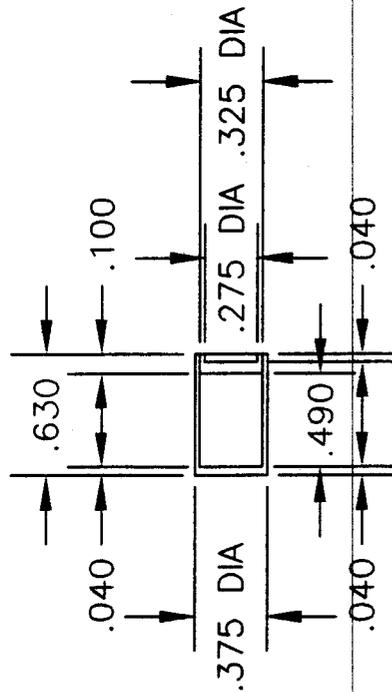
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCE		J. L. SHEPHERD and Associates	
DECIMALS	FRACTIONS	ANGULAR	TITLE
.X ± .030			INNER & OUTER SOURCE CAPSULE
.XX ± .010	± 1/16	± 0° 30"	6810G - TYPE II
.XXX ± .005			
DRAWN	D. TRAN	DATE	SIZE
		02JUN98	A
APPROVED			MODEL
<i>m. Shepherd</i>			6810G-TYPE II
			DWG NO.
			A-0659-6810G-2
			REV
			SHEET
			1 OF 1

NOTE:

1. MATL = 304 STAINLESS STL.
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3. CAPSULES TO BE CERTIFIED "SPECIAL FORM" PER US DOT 10CFR173.469, 10-1-95 EDITION AND IAEA SAFETY SERIES NO. 6, 1985 EDITION AS AMENDED 1990.
4. REMOVEABLE CONTAMINATION $\leq 5 \times 10^{-5}$ uCi. PER ANSI N 43.6-1997 AND ISO 9978, 1992-02-15.
5. INSIDE CONTENTS - CESIUM-137 CHEMICAL FORM - CHLORIDE OR CERAMIC
6. MAXIMUM ACTIVITY - 370 GBq (10 Ci.) CESIUM-137.
7. ANSI N43.6-1997 AND ISO 2919, 1980-005-01 PERFORMANCE CLASSIFICATION C-43434.



INNER CAPSULE

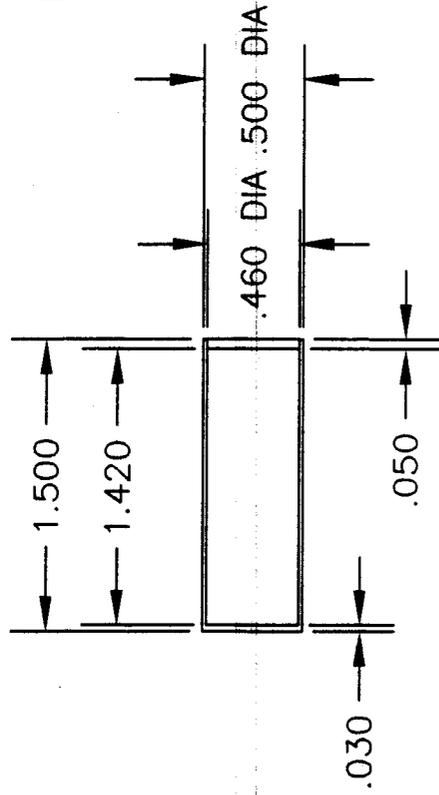


OUTER CAPSULE

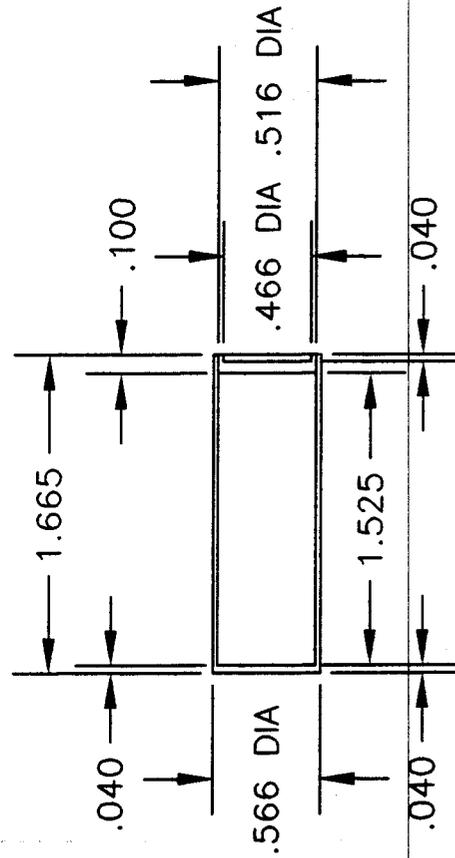
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCE		DATE		MODEL		DWG NO.		REV	
DECIMALS	FRACTIONS	ANGULAR	02JUN98	A	6810G-TYPE III	A-0659-6810G-3			
.X ± .030									
.XX ± .010	± 1/16	± 0° 30'	June 2, 1998						
.XXX ± .005									
DRAWN	D. TRAN			SIZE	SCALE				
				A	FULL				
APPROVED	<i>m. shepherd</i>								
J. L. SHEPHERD and Associates							TITLE		
							INNER & OUTER SOURCE CAPSULE		
							6810G - TYPE III		
							SHEET 1 OF 1		

NOTE:

1. MATL = 304 STAINLESS STL.
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3. CAPSULES TO BE CERTIFIED "SPECIAL FORM" PER US DOT 10CFR173.469, 10-1-95 EDITION AND IAEA SAFETY SERIES NO. 6, 1985 EDITION AS AMENDED 1990.
4. REMOVEABLE CONTAMINATION $\leq 5 \times 10^{-5}$ uCi. PER ANSI N 43.6-1997 AND ISO 9978, 1992-02-15.
5. INSIDE CONTENTS - CESIUM-137 CHEMICAL FORM - CHLORIDE OR CERAMIC
6. MAXIMUM ACTIVITY - 370 GBq (10 Ci.) CESIUM-137.
7. ANSI N43.6-1997 AND ISO 2919, 1980-005-01 PERFORMANCE CLASSIFICATION C-43434.

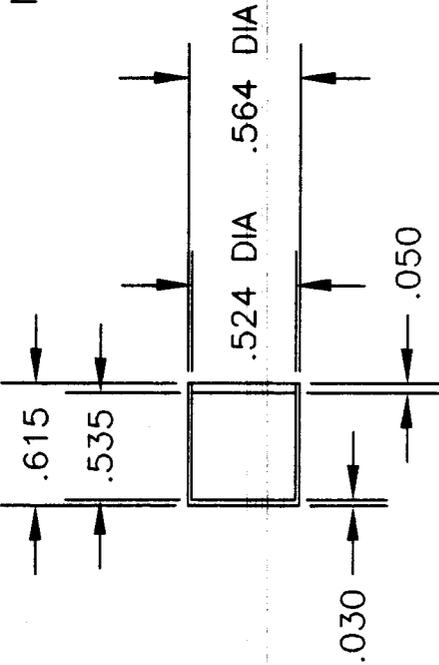


INNER CAPSULE

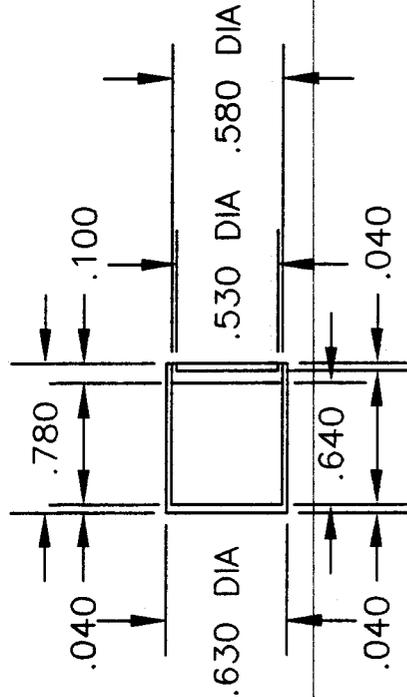


OUTER CAPSULE

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCE		J. L. SHEPHERD and Associates	
DECIMALS	FRACTIONS	ANGULAR	TITLE
.X ± .030			INNER & OUTER SOURCE CAPSULE
.XX ± .010	± 1/16	± ∅ 30°	6810G - TYPE IV
.XXX ± .005			
DRAWN	DATE	SIZE	MODEL
D. TRANI	02JUN98	A	6810G-TYPE IV
APPROVED		SCALE	DWG NO.
<i>m. shepherd</i>	June 2, 1998	FULL	A-0659-6810G-4
			REV
			1 OF 1



INNER CAPSULE



OUTER CAPSULE

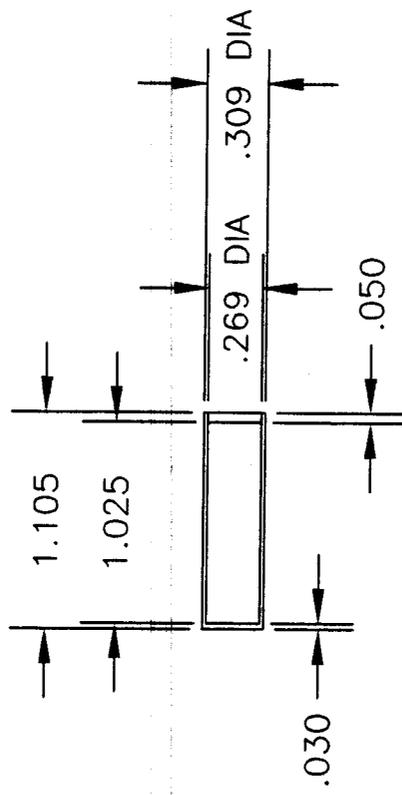
- NOTE:
1. MATL = 304 STAINLESS STL.
 2. END CAPS TO HAVE .006 REGISTER & .0005 INTERFERENCE FIT, 100% HELIARC WELDED.
 3. CAPSULES TO BE CERTIFIED "SPECIAL FORM" PER US DOT 10CFR173.469, 10-1-95 EDITION AND IAEA SAFETY SERIES NO. 6, 1985 EDITION AS AMENDED 1990.

4. REMOVEABLE CONTAMINATION $\leq 5 \times 10^{-5}$ uCi. PER ANSI N 43.6-1997 AND ISO 9978, 1992-02-15.
5. INSIDE CONTENTS - CESIUM-137 CHEMICAL FORM - CHLORIDE OR CERAMIC
6. MAXIMUM ACTIVITY - 370 GBq (10 Ci.) CESIUM-137.
7. ANSI N43.6-1997 AND ISO 2919, 1980-005-01 PERFORMANCE CLASSIFICATION C-43434.

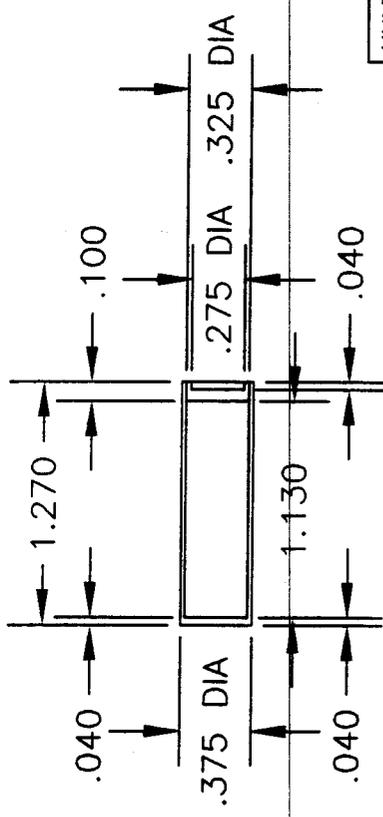
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCE		DATE		DWG NO.		REV	
DECIMALS	FRACTIONS	ANGULAR	D. TRAN	02JUN98	A	6810-TYPE V	A-0659-6810G-5
.X ± .030	.XX ± .010	± 1/16 ± σ 30°	DRAWN		SIZE	MODEL	
.XXX ± .005					A	6810-TYPE V	
APPROVED		DATE		SCALE		SHEET	
M. Shepherd		June 2, 1998		FULL		1 OF 1	
J. L. SHEPHERD and Associates							
TITLE INNER & OUTER SOURCE CAPSULE 6810G - TYPE V							

NOTE:

1. MATL = 304 STAINLESS STL.
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4. REMOVEABLE CONTAMINATION $\leq 5 \times 10^{-5}$ uCi. PER ANSI N 43.6-1997 AND ISO 9978, 1992-02-15.
5. INSIDE CONTENTS - CESIUM-137
CHEMICAL FORM - CHLORIDE OR CERAMIC
6. MAXIMUM ACTIVITY - 370 GBq (10 Ci.) CESIUM-137.
7. ANSI N43.6-1997 AND ISO 2919, 1980-005-01 PERFORMANCE CLASSIFICATION C-43434.



INNER CAPSULE



OUTER CAPSULE

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCE		DATE		DWG NO.		REV	
DECIMALS	FRACTIONS	ANGULAR	D. TRAN	02JUN98	A	6810G-TYPE VI	A-0659-6810G-6
.X ± .030			APPROVED	June 2, 1998	SCALE	FULL	SHEET 1 OF 1
.XX ± .010		± 1/16 ± σ 30°	M. Shepherd				
.XXX ± .005							
J. L. SHEPHERD and Associates				TITLE INNER & OUTER SOURCE CAPSULE 6810G - TYPE VI			



U.S. Department
of Transportation

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

**Pipeline and
Hazardous Materials
Safety Administration**

CERTIFICATE NUMBER: USA/0559/S-96, Revision 3

ORIGINAL REGISTRANT(S):

Ms. Mary Shepherd
Vice President
J.L. Shepherd & Associates
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San Fernando, 91340-1822
USA