



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

**IAEA CERTIFICATE OF COMPETENT AUTHORITY  
SPECIAL FORM RADIOACTIVE MATERIALS  
CERTIFICATE USA/0158/S-96, REVISION 8**

East Building, PHH-23  
1200 New Jersey Avenue Southeast  
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 - E.I. DuPont/New England Nuclear Model NER-479C.
2. Source Description - Cylindrical single encapsulation made of Type 316L stainless steel and heli-arc seal welded. Approximate outer dimensions range from 15.2 mm (0.6 in.) to 38.1 mm (1.5 in.) in diameter and 5.6 mm (0.22 in.) to 12.7 mm (0.5 in.) in length. The active face has a wall thickness of approximately 0.25 mm (0.01 in.). Construction shall be in accordance with attached New England Nuclear Corp. Drawing No. 313-306, dated 9-11-78.
3. Radioactive Contents - No more than 74.0 GBq (2.0 Ci) of Americium-241. The Am-241 is in the form of 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 August 31, 2021.

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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/0158/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 August 09, 2016 petition by J.L. Shepherd & Associates, San Fernando, CA, and in consideration of other information on file in this Office.

Certified By:

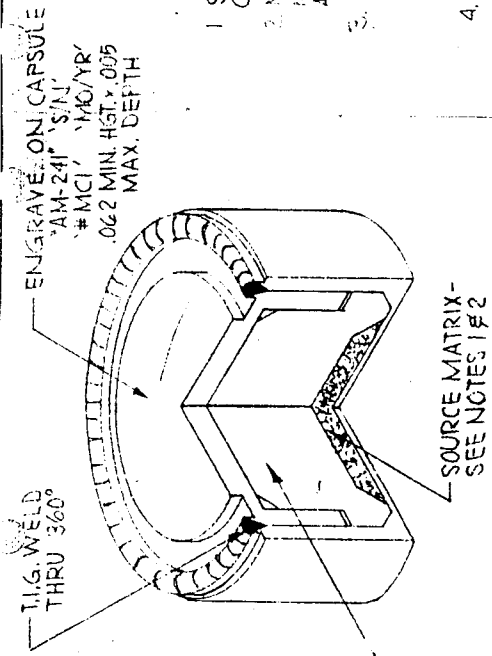


**Aug 22 2016**

(DATE)

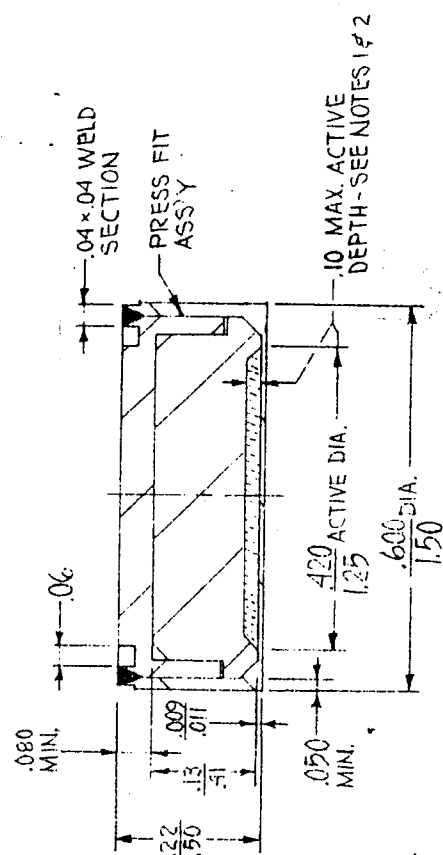
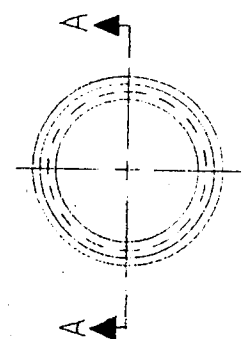
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William Schoonover  
Acting Associate Administrator for Hazardous Materials Safety

Revision 8 - Issued to extend the expiration date.



NOTES

1. SOURCE MATRIX CONSISTS OF AM 241 AS A VITREOUS CERAMIC FUSED TO THE INSERT FORMING A CERAMIC GLAZE.
2. MAXIMUM ACTIVE AREA CONCENTRATION SHALL BE 2000 MCI.
3. MAXIMUM ACTIVITY CONCENTRATION SHALL BE 1.25 CI/CM<sup>2</sup> ACTIVE AREA. A T/D RATIO OF 1.0 TO BE 5.0 MIN.
4. INSERT TO WHICH THE SOURCE MATRIX IS FUSED, SHALL BE CRES 316L ST.1 OR AN ALKALINE-BILICATE MACHINABLE CERAMIC (MELTING POINT ~1200°C AFTER FIRING AND SUBSEQUENT COOLING).
5. LEAK TEST PER ANSI N542-1977 PROCEDURES A2.11, SMEAR TEST, AZ13 IMMERSION TEST AND A2.21 BUBBLE TEST. SEE NS-A TEST DIRECTIVE 609. LIMIT 100%.
6. ANSI N542-1977 PERFORMANCE CLASSIFICATION C6-44.
7. D.O.T. 'SPECIAL FORM' MATERIAL PER 10CFR 71.9.



SECTION A-A

NEW ENGLAND NUCLEAR CORP.

MATERIAL SPECIFICATIONS		FRACTIONAL	DECIMAL	ANGULAR
CRES 316L STN. STL.		1/64	XX ± .010 XX ± .005	± 30'
DRAWN	J. SUMARES	REV.	DATE 9-11-78	SCALE N.T.S.
CHECKED				
APPROVED				
DO NOT SCALE DRAWING				
NEW ENGLAND NUCLEAR CORP. BOSTON, MASS.				DRAWING NO. 313-306
NER-479C AM-241 L.E. PHOTON SOURCE				



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**CERTIFICATE NUMBER:** USA/0158/S-96, Revision 8

**ORIGINAL REGISTRANT(S):**

Ms. Mary Shepherd  
Vice President  
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