



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

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE USA/0185/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 Agency¹ and the United States of America² for the transport of radioactive material.

1. Source Identification - New England Nuclear Model No. NER-476C.
2. Source Description - Source is a single encapsulation of Type CRES 316L stainless steel, tungsten-inert-gas welded, in the form of a circular annulus of outer diameter 51 mm (2.0 in.), inner diameter 24 mm (0.95 in.), and height 8 mm (0.31 in.). Source material is embedded in a vitreous ceramic fused to an annular groove in an annular tungsten insert. Gamma window has a thickness of 0.25 mm (0.01 in.). Capsule weight is 220 g (0.48 lb). Construction shall be in accordance with attached New England Nuclear Corporation Drawing No. 313-390.
3. Radioactive Contents - Not more than 0.074 TBq (2.0 Ci) of Americium-241 in ceramic fused to the tungsten insert.
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 November 30, 2021.

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.

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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 November 30, 2016 petition by Eckert & Ziegler Isotope Products, Valencia, CA, and in consideration of other information on file in this Office.

Certified By:



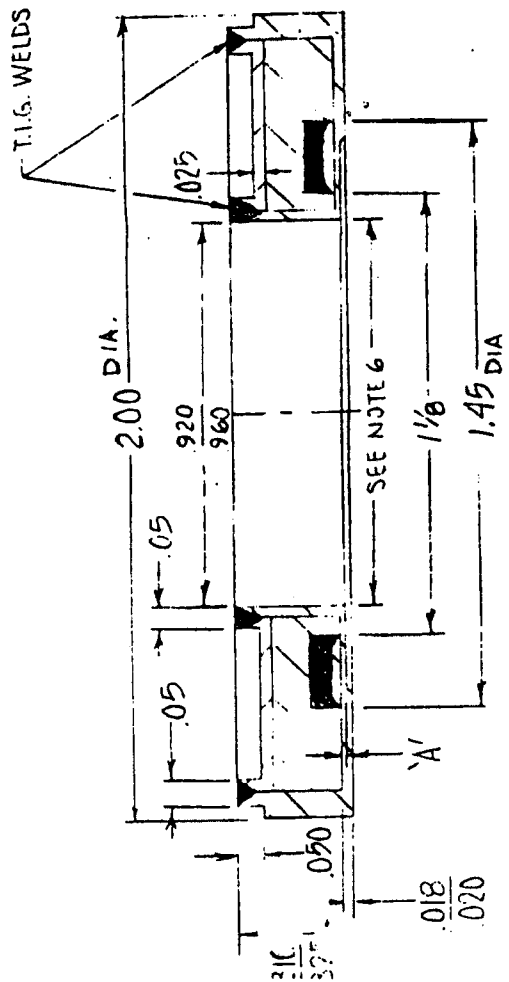
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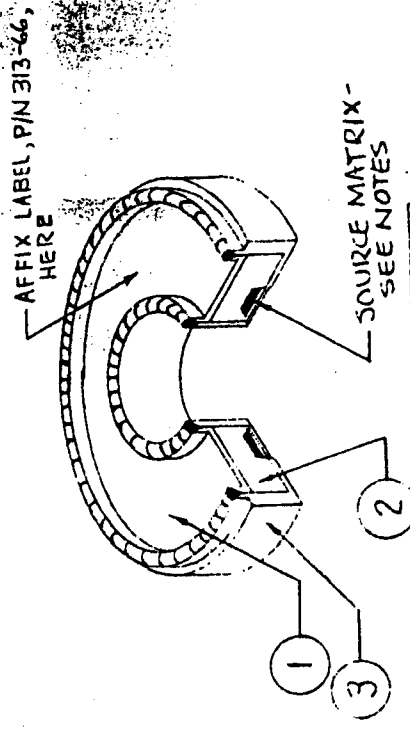
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William Schoonover
Acting Associate Administrator for Hazardous Materials Safety

Revision 8 - Issued to extend the expiration date.

DATE	BY	REVISION RECORD	AUTH



SECTION VIEW



ASSY P/N-01		ASSY P/N-02	
ITEM NO.	PART NO.	ITEM NO.	PART NO.
1	313-28-01	1	313-268-01
2	313-28-02	2	313-268-02
3	313-28-03	3	313-268-03

NOTES

- ASSY MODEL: CAPSULE WINDOW THICKNESS(A) ANSIN 592-1977 CLASSIFICATION
 PIN NUMBER: CAPSULE MAT'L THICKNESS(A) 77C493322
 -01 NER-476C LEA66 1100 ALJM. 6 MIL 77C6644
 -02 NER-476C LEA316 36LSTH. STL. 10 MIL 77C6644
- SOURCE MATRIX CONSISTS OF AM-241 INCORPORATED INTO A VITREOUS CERAMIC & FUSED TO THE TUNGSTEN ALLOY SHIELD (ITEM NO. 2).
- NOMINAL ACTIVITY TO BE SPECIFIED ON PURCHASE ORDER. TOLERANCE TO BE +15%, -10%. MAXIMUM ACTIVITY CONTENT TO BE 2000 MCI.
- LEAK TEST PER ANS/N 592-1977 PROCEDURES A2.2.1 AND A2.1.1 OR A2.1.3. LIMIT 1×10^{-8} MCI.
- ASSY P/N-02 IS SPECIAL FORM MATERIAL PER 10CFR PART 71.1.
- SELECT A RING SHIELD, P/N 313-32C-07, HAVING AN O.D. THAT SLIP FITS INTO CAPSULE I.D. WHEN ASSEMBLING AN XRF SYSTEM.

TOLERANCES (EXCEPT AS NOTED)	NEW ENGLAND NUCLEAR CORP.	
DECIMAL XX ± .010	SCALE 1 N.T.S.	DRAWN BY APPROVED BY
FRACTIONAL ± 1/32	TITLE NER-476C 241AM ANNULAR SOURCE	
ANGULAR ± 30'	DATE 2-15-80	DRAWING NUMBER 313-390



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CERTIFICATE NUMBER: USA/0185/S-96, Revision 8

ORIGINAL REGISTRANT(S):

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