



U.S. Department  
of Transportation

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

**Research and  
Special Programs  
Administration**

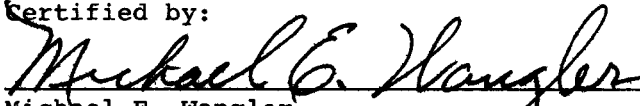
**IAEA CERTIFICATE OF COMPETENT AUTHORITY  
SPECIAL FORM RADIOACTIVE MATERIALS  
CERTIFICATE NUMBER USA/0399/S, REVISION 1**

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 materials.

1. Source Identification - CPN Corporation Model No. T100405.
2. Source Description - The doubly encapsulated type 316L stainless steel welded capsule measures 9.0 mm (.356") in diameter by 12.7 mm (.500") in length, (drawing attached).
3. Radioactive Contents - This source consists of not more than 3.7 GBq (100 mCi) of Americium 241 oxide in a Beryllium metal powder pressed to form a pellet.
4. Expiration Date - This certificate expires December 31, 1990. This certificate supersedes, in its entirety, all previously issued revisions of USA/0399/S.

This certificate is issued in accordance with paragraph 803 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the May 8, 1990 and June 5, 1990 petitions by CPN Corporation, Martinez, CA, and in consideration of other information on file in this Office.

Certified by:

  
Michael E. Wangler  
Chief, Radioactive Materials Branch  
Office of Hazardous Materials Transportation

JUN 18 1990

(DATE)

Revision 1 - issued to extend expiration date.

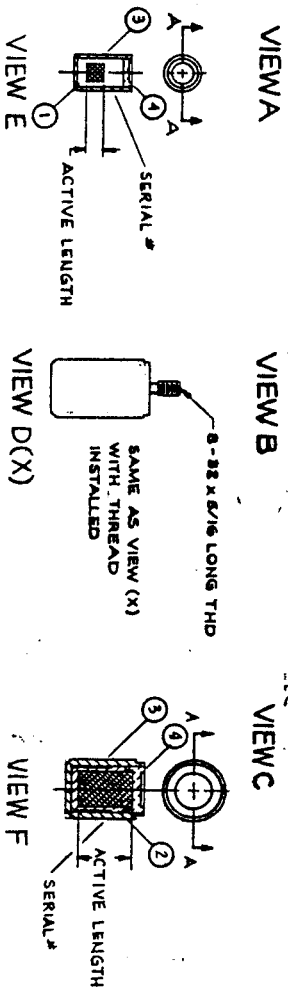
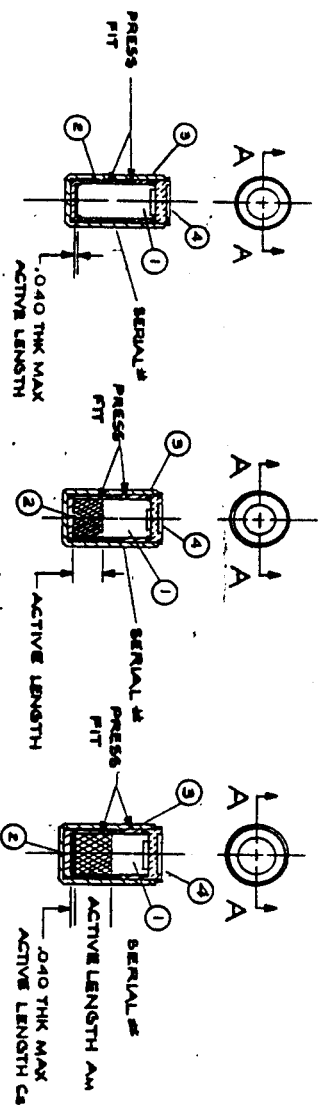
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1 "Safety Series No. 6, Regulations for the Safe Transport of Radioactive Materials, 1973 Revised Edition, as amended," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

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

REV	DATE	DESCRIPTION	BY	CHKD
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SPECIFICATIONS

- 1) SEALED SOURCE: PER ANSI N542 CLASS C64444.
- 2) WALL MAT'L: .025-.040 THK 316L.
- 3) CLOSURE: DOUBLE FUSION WELD (CS-CO SINGLE).
- 4) STABILITY: ACTIVE MATERIAL FIXED IN PLACE.
- 5) LABELING: ACTIVE MATERIAL AND QUANTITY PLUS VENDORS S/N TO BE STAMPED OR ENGRAVED ON SIDE OF CAPSULE. REPORT: A TEST REPORT SHALL BE SUPPLIED STATING THE MEASURED EQUIVALENT ACTIVITY OR NEUTRON EMISSION.
- 6) TRANSPORTATION: THE ENCAPSULATION SHALL MEET ALL REQUIREMENTS FOR DANGEROUS GOODS REGULATIONS, US 49 CFR AND IAEA SAFETY SERIES NO. 8.
- 7) SIZE: 0.250 TO 0.500 DIA BY 0.500 TO 0.750 LONG. SEE TABULATION. TOLERANCE  $\pm .005$
- 8) LOADING: 0-100 mCi Cs-137  $\pm 2\%$ , 0-500 mCi Am-241/Bc  $\pm 10\%$ , 0-100 mCi Ra-226/Bc  $\pm 10\%$ , 0-100 mCi Cs-60  $\pm 12\%$ . SEE TAB
- 9) APPROVED VENDORS: SEE TABULATIONS  
A) AMERSHAM  
B) AMERSHAM
- 10) TESTS: PER ANST WIRE TEST (H) THE SOURCE IS WIPED WITH A SHAB OR TISSUE, MOISTENED WITH ETHANOL OR WATER. THE ACTIVITY REMOVED IS MEASURED. LIMIT: 0.005  $\mu$ Ci. BUBBLE TEST (B) THE SOURCE IS IMMERSSED IN A SUITABLE LIQUID (ETHANOL) AND THE PRESSURE IN THE VESSEL REDUCED TO 100mm OF MERCURY. NO BUBBLES MUST BE OBSERVED. IMMERSION TEST (IS) THE SOURCE IS IMMERSSED IN WATER AT 50°C FOR 4 HOURS AND THE ACTIVITY IN THE WATER MEASURED. LIMIT: 0.005  $\mu$ Ci. IMMERSION TEST (II) THE SOURCE IS IMMERSSED IN WATER WHICH IS RAISED TO 100°C AND HELD AT THAT TEMP-ERATURE FOR 10 MIN. THE WATER IS THEN REMOVED, THE SOURCE COOLED AND RINSED USING FRESH WATER. THESE OPERATIONS ARE REPEATED TWICE, BOILING IN THE WATER FROM THE PRECEDING RINSING OPERATION. LIMIT: 0.005  $\mu$ Ci IN ALL THE LIQUID COLLECTED. SEE TABULATION.



TABULATION

P/N	Am-241/Bc	Ra-226/Bc	Cs-60	Cf-252	SIZE	VIEW	APPR. VEND.	USED ON	TESTS
T400878	10%Ci	—	—	—	.381 DIA X .550 DIA X .300 LONG	A	B, E, I	MC, S01	W/B, I100
T400681	—	50%Ci	—	—	.381 DIA X .550 DIA X .300 LONG	B	B, C, D, E, I	MC, S01	W/B, I100
T200166	10%Ci	50%Ci	—	—	.381 DIA X .550 DIA X .300 LONG	C	B, C, D, E, I	BR, C, MC-5	W/B, I100
T100405	—	100%Ci	—	—	.381 DIA X .550 DIA X .300 LONG	B	B, C, D, E, I	AC-2	W/B, I100
T400982	—	—	70%Ci	—	.381 DIA X .550 DIA X .300 LONG	E	B, C, D, E, I	MC-J	W/B
T400981	—	—	30%Ci	—	.381 DIA X .550 DIA X .300 LONG	F	B, C, D, E, I	MC-J	W/B, I150

CPN Campbell Pacific Nuclear  
 SOURCE CAPSULE MODEL CPN 131  
 PART 2:1

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