



U.S. Department
of Transportation

Research and
Special Programs
Administration

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

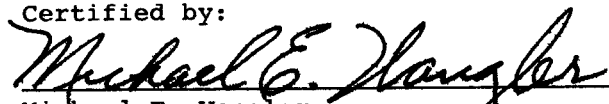
IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE NUMBER USA/0400/S, REVISION 1

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

1. Source Identification - CPN Corporation Model No. T200156.
2. Source Description - The doubly encapsulated type 316L stainless steel welded capsule measures 9.0 mm (.356") in diameter by 14.5 mm (.572") in length, (drawing attached).
3. Radioactive Contents - This source consists of not more than 0.37 GBq (10 mCi) of Cesium-137 in the form of a ceramic and 1.85 GBq (50 mCi) of Americium oxide in a Beryllium metal powder pressed to form a pellet.
4. Expiration Date - This certificate expires December 31, 1992. This certificate supersedes, in its entirety, all previously issued revisions of USA/0400/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.

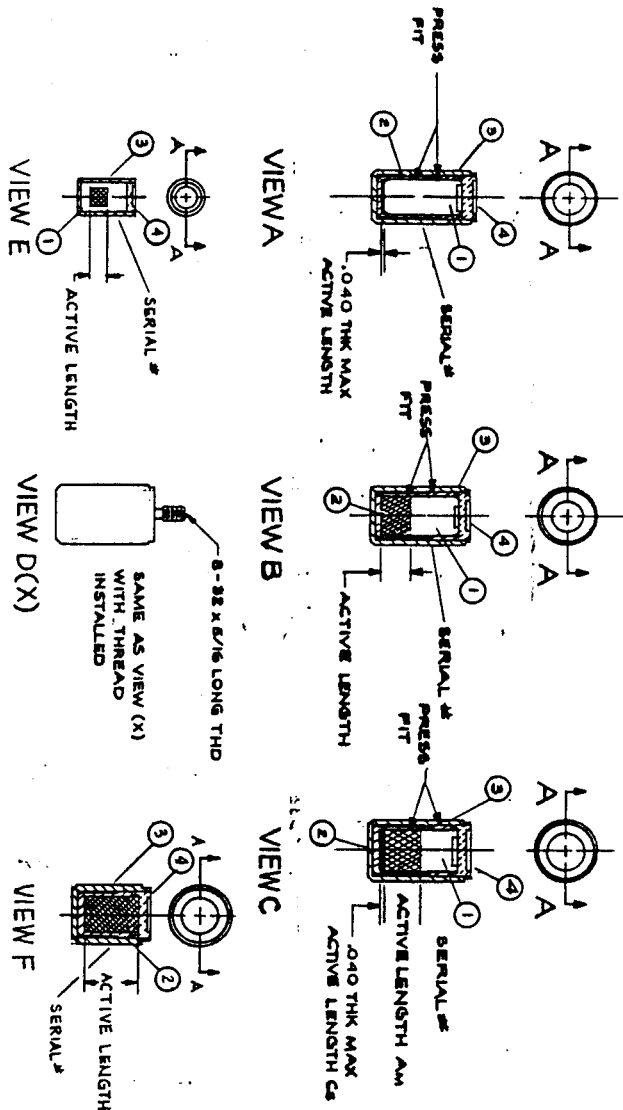
1 "Safety Series No. 6, Regulations for the Safe Transport of Radioactive Materials, 1973 Revised Edition, as amended," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

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

REV	DATE	DESCRIPTION	BY
F		REVISION	
G		ADD SPEC 1, CHNGD SPEC 6, .040 WAS .005, CHNGD MTL, AND SPEC 7, ADD II	
H		ADD VIEW D(X)	
I		DELETE APPD VENDOR C.D.	
J		ADD T100405	
K		TOL WAS +20% -0%	
L		ADD Co-60, Cf-252	
M		Co-60, Cf-252, MC1 WAS MC1	

SPECIFICATIONS

- 1) SEALED SOURCE: PER ANSI N542 CLASS C64444.
- 2) WALL MATL: .025-.040 THK 316L.
- 3) CLOSURE: DOUBLE FUSION WELD (Co-60 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. A TEST REPORT SHALL BE SUPPLIED STATING THE MEASURED EQUIVALENT ACTIVITY OR NEUTRON EMISSION.
- 6) REPORT: A TEST REPORT SHALL BE SUPPLIED STATING THE MEASURED EQUIVALENT ACTIVITY OR NEUTRON EMISSION.
- 7) TRANSPORTATION: THE ENCAPSULATION SHALL MEET ALL REQUIREMENTS FOR DANGEROUS GOODS REQUIREMENTS, SPECIAL FORM # PER IATA US 49 CFR AND IAEA SAFETY SERIES NO. 6.
- 8) SIZE: 0.250 TO 0.500 DIA BY 0.500 TO 0.750 LONG. SEE TABULATION. TOLERANCE +.000 -.005
- 9) LOADING: 0-100 MC1 Co-137 ±12%
 0-500 MC1 Am-241/Be ±10%
 0-10 MC1 Ra-226/Be ±10%
 0-100 MC1 Co-60 ±10%
 0-100 MC1 Cf-252 ±10%
 SEE TAB
- 10) APPROVED VENDORS: SEE TABULATIONS
 A) AMERSHAM
 B) AMERSHAM
- 11) TESTS: PER ANSI WIRE TEST (W)
 THE SOURCE IS WIRED WITH A SNAB OR TISSUE, MOISTENED WITH ETHANOL OR WATER. THE ACTIVITY REMOVED IS MEASURED. LIMIT: 0.005 ±d1.
 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 (I30)
 THE SOURCE IS IMMERSSED IN WATER AT 50°C FOR 4 HOURS AND THE ACTIVITY IN THE WATER MEASURED. LIMIT: 0.005 ±d1.
 IMMERSION TEST (I100)
 THE SOURCE IS IMMERSSED IN WATER WHICH IS RAISED TO 100°C AND HELD AT THAT TEMPERATURE FOR 10 MIN. THE WATER IS THEN REMOVED, THE SOURCE COOLED AND RINSED USING FRESH WATER. THESE OPERATIONS ARE REPEATED TWICE, BOILING IN WATER FROM THE PRECEDING RINSING OPERATION. LIMIT: 0.05 ±d1 IN ALL THE LIQUID COLLECTED. SEE TABULATION



TABULATION

P/N	Co-137	Am-241/Be	Ra-226/Be	Co-60	Cf-252	SIZE	VIEW	APPR. VENDOR	USED ON	TESTS
T400878	10-mCi	50-mCi	50-mCi	50-mCi	50-mCi	.251 DIA X .500 LONG	A	MC-501	W/B, I50	W/B, I100
T400881	50-mCi	50-mCi	50-mCi	50-mCi	50-mCi	.251 DIA X .500 LONG	B	MC-501	W/B, I100	W/B, I100
T200166	10-mCi	50-mCi	50-mCi	50-mCi	50-mCi	.251 DIA X .500 LONG	C	DR, MC-5	W/B, I100	W/B, I100
T100405	100-mCi	100-mCi	100-mCi	100-mCi	100-mCi	.350 DIA X .700 LONG	B	AC-2	W/B, I100	W/B, I100
T400982	---	---	---	70-mCi	---	.197 DIA X .397 LONG	E	MC-J	W/B	W/B
T400981	---	---	---	30-mCi	---	.197 DIA X .397 LONG	F	MC-J	W/B, I50	W/B, I50

UNLESS OTHERWISE NOTED
 1. ALL DIMENSIONS ARE IN INCHES
 2. ALL DIMENSIONS ARE TO BE HONED UNLESS OTHERWISE NOTED
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DATE: 4-2-88
 TIME: 4:15 P
 CPN Campbell Pacific Nuclear
 MODEL CPN 131
 C200131

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