



U.S. Department
of Transportation

Pipeline and
Hazardous Materials
Safety Administration

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

IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS

CERTIFICATE USA/0113/S-96, REVISION 12

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 - Schlumberger Model Nos. NSR-F, NSR-D, and NSR-R.
2. Source Description - Cylindrical seal welded double encapsulations with inner capsule made of Type 304 stainless steel. Outer capsule exterior dimensions are 33.0 mm (1.3 in.) in diameter and 107 mm (4.2 in.) in length. Model No. NSR-R outer capsule is made of multi-phase MP35N alloy. Model Nos. NSR-F and NSR-D outer capsules are made of 18% maraging steel (MS) or MP35N alloy. Construction shall be in accordance with attached Drawing Nos. DH407655, Rev. B (NSR-R); H-142108 (NSR-F with MS); H-115686 (NSR-D with MS); H-357068 (NSR-F with MP35N); and H-357074 (NSR-D with MP35N). All Model NSR-F and NSR-D sources manufactured after December 31, 1999 shall be manufactured in accordance with H-357068 and H-357074.
3. Radioactive Contents - All models may contain no more than 1.0 GBq (27 mCi) of Californium-252 in the form of a metal wire or pellets. Alternatively, Model No. NSR-F may contain no more than 0.74 TBq (20 Ci) of Americium-241 in oxide form combined with beryllium and Model No. NSR-D may contain no more than 0.23 TBq (6.3 Ci) of Americium-241 in oxide form combined with beryllium.

¹ "Regulations for the Safe Transport of Radioactive Material, 2012 Edition, No. SSR-6" 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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4. Management System Activities - Records of Management System activities required by Paragraph 306 of the IAEA regulations 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 requirements of Subpart H of 10 CFR 71.


5. Expiration Date - This certificate expires on August 31, 2022. Previous editions which have not reached their expiration date may continue to be used.

This certificate is issued in accordance with paragraph(s) 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the May 30, 2017 petition by Schlumberger, Sugar Land, TX, and in consideration of other information on file in this Office.

Certified By:



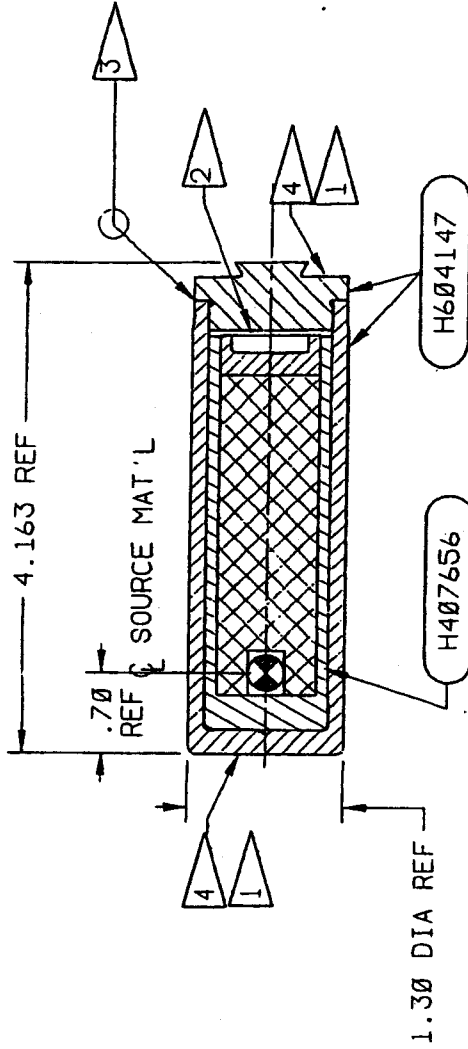
October 05, 2017
(DATE)

 William Schoonover
Associate Administrator for Hazardous
Materials Safety

Revision 12 - Issued to extend the expiration date.

NOTES-

- 1 SERIAL NUMBER AND IDENTIFICATION MARKING TO BE DONE BY SUPPLIER. SERIAL NUMBERING SYSTEM TO BE IN AGREEMENT WITH: EH407651
- 2 SHIM OR FILL THIS SPACE IF NECESSARY TO PERMIT A MAXIMUM GAP OF .005.
- 3 PRESS CLOSURE TIGHT AGAINST CASE BEFORE WELDING.
- 4 MARK IDENTIFICATION "C4252 1.15±.05 X 10⁸ N/SEC" ON EACH END. OTHER MARKING TO BE PER SPECIFICATIONS LISTED ON BILL OF MATERIAL.
- 5 CONSTRUCTION AND INSPECTION PER EH407691



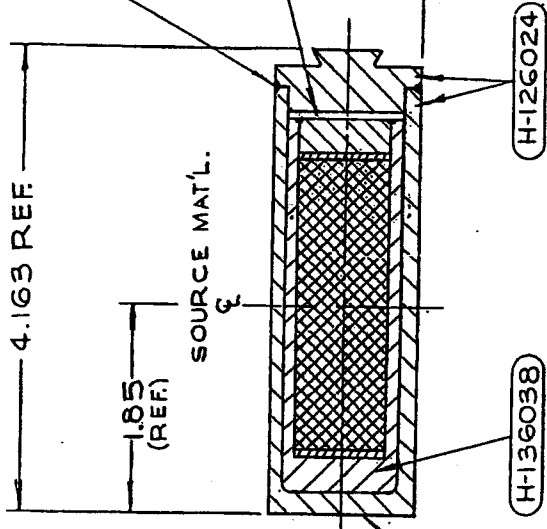
DH407655

FINISH OR TREATMENT		DEF		QTY		MATERIAL	
FILE CODE	NSR-R	SCHLUMBERGER WELL SERVICES				A DIVISION OF SCHLUMBERGER TECHNOLOGY CORPORATION	
UNLESS OTHERWISE SPECIFIED		CONFIDENTIAL AND TRADE SECRET - DO NOT DISCLOSE, USE OR REPRODUCE WITHOUT PRIOR WRITTEN APPROVAL FROM SCHLUMBERGER				NSR-R NEUTRON SOURCE, 27 MILLICURIE, CF-252	
TOLERANCE DECIMALS		OWN.	R. E. HOOVER, JR.	20	AUG 85		
		DES.	RIC HOOVER		AUG 85		
		CON.	MIKE O-BRIEN		16	MAY 86	
		APP.	J. S. HALL		16	MAY 86	
ANGLES		TE.	MIKE O-BRIEN		16	MAY 86	
CONCENTRICITY	TIR					REV. B	
INSIDE CORNERS	R MAX					DH407655	
DIMENSIONS	IN INCHES					SCALE 1/1	
REMOVE BURRS	BREAK EDGES					REV. 1 OF 1	
.005 MIN	.250 MAX					DATE JUL 15 1987	
DIMENSIONS INCLUDE	APPLIED FINISHES					SHEET SIZE B	

.DT FILE : 86/84/87 OF DRAWING CELL 'DH407655' OF DATABASE 'USPC0816A' (PDS.AKCTBHW7655.J)

JUL 15 1987

A & B.M.



PRESS CLOSURE TIGHT AGAINST CASE BEFORE WELDING

SHIM OR FILL THIS SPACE IF NECESSARY, TO PERMIT A MAX. GAP OF .005.

1.302 O.D. MAX. MACHINING AFTER WELDING PERMISSIBLE

PERMANENT IDENTIFYING MARKS ON EACH END. SEE NOTE #1

NOTES:

- SERIAL NUMBER & IDENTIFICATION MARKING TO BE DONE BY SUPPLIER. SERIAL NUMBERING SYSTEM TO BE APPROVED BY S.W. S.

REMOVED AFTER MACHINING

SEE ENG. SPECS. H-136038

DEVISIONS AND TOLERANCES SHOWN APPLY TO FINISHED PART. ALLOWANCES FOR PLATING TO BE MADE BY MANUFACTURER.

DET QTY MATERIAL SPEC APP. MAT. COMP. & PROCESSES

CONSTRUCTION & INSPECTION PER ENS H-209986 **A**

ENGINEERING APPROVED SUPPLIER: MONSANTO RESEARCH CO. DRYTON, OHIO

OR NUMEC APOLLO, PA.

SOURCE ACTIVITY: **A**
 19.99 CURIE MAX. **A**

SOURCE OUTPUT: **A**
 4.0 -0.0 $\times 10^{-7}$ N/SEC **A**

C	9/19/74	ECN 52900
B	1/27/74	ECN 42573 FEB 3 8/76
A	8/25/74	ECN 39819 AUG 2 8/76
N-1	DATE	DESCRIPTION

REVISIONS

PROJECTS **NSR-F**

TOLERANCES UNLESS OTHERWISE SPECIFIED

Ø	±.030	CONCENTRICITY .010 T.I.R.
Ø	±.018	125 V ON ALL MACHINED SURFACES
Ø	±.008	BREAK ALL CORNERS .015 MAX. .010 MIN. (R. OR 45°)
ANG.	±.5°	

DO NOT COPY, DISPLAY, OR USE DRAWING WITHOUT AUTHORIZATION - DO NOT SCALE DRAWING

HATAMCCOY APPROVED FOR RELEASE

F.K.D. DES. ENGR. PROD. ENGR. *[Signature]*

DRM:RLS DATE 1-26-68 SCALE FULL

SCHLUMBERGER WELL SERVICES A Division of Schlumberger Technology Corporation HOUSTON, TEXAS

NEUTRON SOURCE, **A**
 RADIOACTIVE $1/6$ CURIE

Am-241

H-208295
 USED ON

ASS'DWG. H-142108

FEB 2 1971 © SHEET 858 P

NOV 20 1979

MATERIAL
CONSTRUCTION & INSPECTION PER ENS H-209986
ENGINEERING APPROVED SUPPLIERS:
MONSANTO RESEARCH CO. DAYTON, OHIO

OR

NUMEC	APOLLO, PA
F19-1978	ECN 52900
E 1/4872 MC	ECN 19892 FEB 1 81Z
D 2-24-70 N/A	ECN 15553
C 12-28-61 RESE	ADDED MACHINING AFTER SHIM OR FILL THIS SPACE WITH 3ST. TO PREVENT SPRING WITH 3ST. TO PREVENT.
B 12-28-64	H-126026 WAS H-119369
A 10-15-63	HK ADD ALT. SUPPLIER H-45779

REVISIONS

PROJECT#	NO.	DATE	BY	DESCRIPTION
1125-C	1			1125-D
1125-MD	1			1125-D

TOLERANCES UNLESS OTHERWISE SPECIFIED

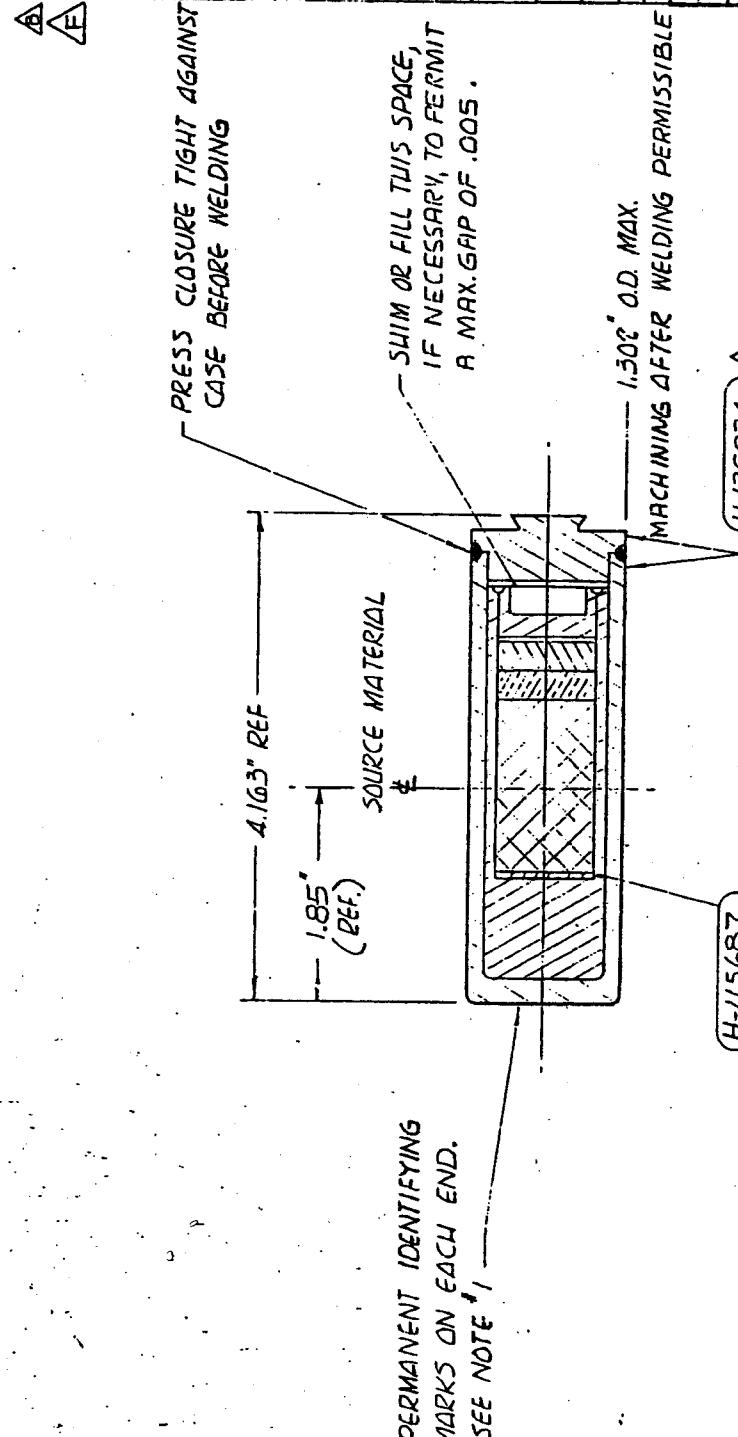
1.0	± .000	CONCENTRICITY .010 T.I.R.
1.00	± .018	
1.000	± .008	
ANG. ± 12'		

12V ON ALL MACHINED SURFACES
 BREAK ALL CORNERS
 .015 MAX. DIA MIN. (R. OR 45°)
 DO NOT COPY, DISPLAY, OR USE DRAWING WITHOUT AUTHORIZATION - DO NOT SCALE DRAWING

DATA M05EP CRD. V APP. 11/20/79
 DWN. Adnot DATE 5-2-76 SCALE 1/1

SCHLUMBERGER WELL SURVEYING CORP.
 HOUSTON, TEXAS

NEUTRON SOURCE, RADIOACTIVE
Am-Be 5 CURIE
ASSEMBLY DWG. H-115686



WHERE USED
 H-208286

NOTES:

- SERIAL NUMBER & IDENTIFICATION MARKING TO BE DONE BY SUPPLIER. SERIAL NUMBERING SYSTEM TO BE APPROVED BY S.N.S. MFG'S IDENTIFICATION MARK PERMISSIBLE.
- SOURCE OUTPUT: $0.9^{+0.1}_{-0.0} \times 10^7$ N/SEC
 MAX ACTIVITY: 7.99 CURIE

NOV 20 1979

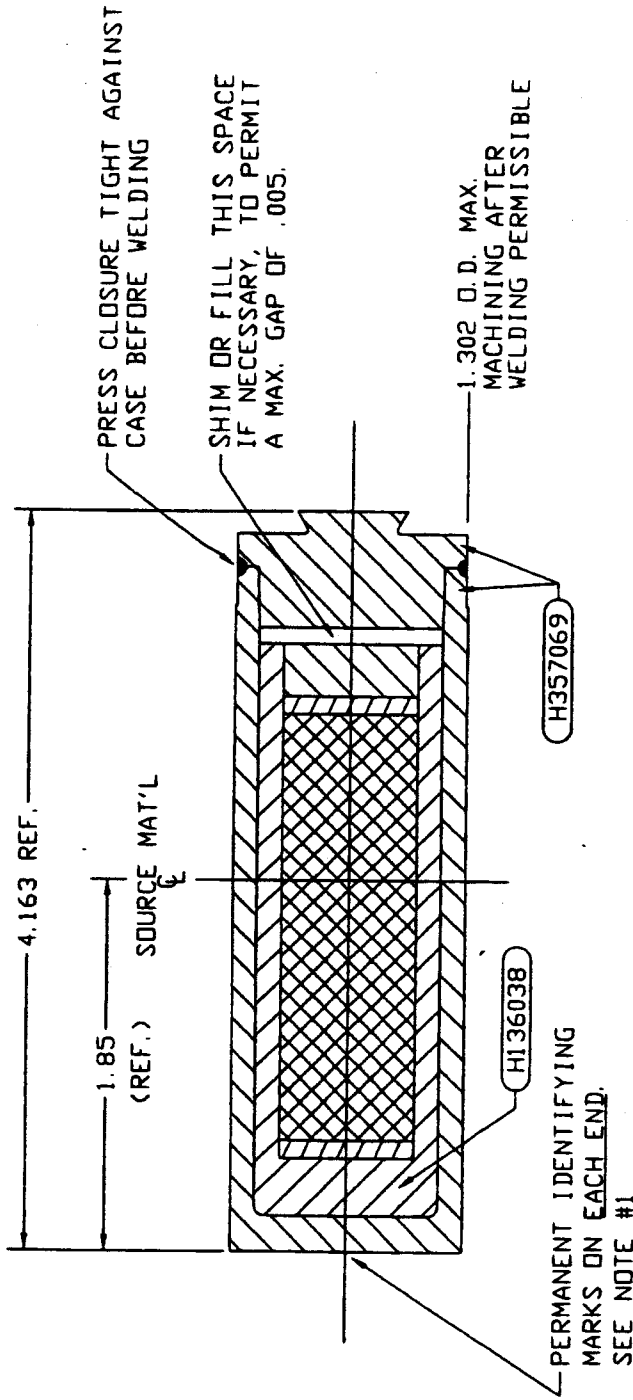
SOURCE ACTIVITY:
19.99 CURIE MAX.

SOURCE OUTPUT:
4.0 $\pm 0.6 \times 10^7$ N/SEC

1. SERIAL NUMBER & IDENTIFICATION MARKING TO BE DONE BY SUPPLIER.
SERIAL NUMBER TO BE SUPPLIED BY OFFICE OF CORPORATION RADIATION SAFTEY OFFICER.

2. SOURCE OF MATERIAL IS STORED NSR-F.

3. INSPECTION AS PER SH209986.



ENGINEERING APPROVED SUPPLIER:

GAMMATRON, INC.
5703 Etheridge
Houston, TX 77087
713-641-3640

FILE CODE	FINISH OR TREATMENT	DET	QTY	MATERIAL
NSR-FC	CONFIDENTIAL AND TRADE USE FOR REPRODUCTION PRIOR WRITTEN APPROVAL FROM SCHLUMBERGER	SCHLUMBERGER WELL SERVICES		SCHLUMBERGER WELL SERVICES A DIVISION OF INTELLIGENCE TECHNOLOGY CORPORATION
UNLESS DIMENSIONS SPECIFIED OTHERWISE	JT MORRISON 1-26-98			NUETRON SOURCE, RADIOACTIVE, RECYCLED
TOLERANCE	J M. BATES 1-26-98			Am-Be
.X ± .030	J M. BATES 1-26-98			H357068
.XX ± .015	J M. BATES 1-26-98			SCALE 2-1
.XXX ± .005	J M. BATES 1-26-98			REF 1
ANGLES = 45°				
CONCENTRICITY .010 IN				
ROUND CORNERS R MAX				
DIMENSIONS ARE IN INCHES				
UNLESS OTHERWISE SPECIFIED				
FINISHES				

H357068

NOTES:

1. SERIAL NUMBER & IDENTIFICATION MARKING TO BE DONE BY SUPPLIER.
SERIAL NUMBER TO BE SUPPLIED BY OFFICE OF CORPORATION RADIATION SAFETY OFFICER.
2. SOURCE OUTPUT: $0.9^{+0.1}_{-0.0} \times 10^7$ N/SEC
MAX ACTIVITY: 7.99 CURIE

3. ALTERNATE PART IS H126024.

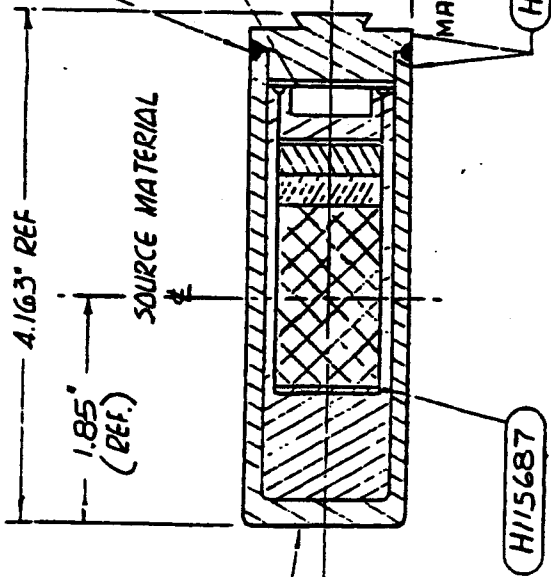
4. SOURCE MATERIAL IS STORED NSR-D.

PERMANENT IDENTIFYING
MARKS ON EACH END.
SEE NOTE 1

PRESS CLOSURE TIGHT AGAINST
CASE BEFORE WELDING

SHIM OR FILL THIS SPACE,
IF NECESSARY, TO PERMIT
A MAX. GAP OF .005.

1.300" O.D. MAX.
MACHINING AFTER WELDING PERMISSIBLE



MATERIAL

CONSTRUCTION &
INSPECTION PER ENS 5H209986

ENGINEERING APPROVED
SUPPLIERS:

GAMMATRON, INC.
5703 Etheridge
Houston, TX 77087
713-641-3640

A	2-9-98	JTM	ECN# N18950
NO.	DATE	BY	DESCRIPTION

PROJECTS	NSR-DB
REVISIONS	

TOLERANCES UNLESS OTHERWISE SPECIFIED:	
1.0	2.000
1.00	2.010
1.000	2.000
ANG.	2 1/2°

12V ON ALL MACHINED SURFACES
BREAK ALL CORNERS 1/16" OR 4R1
DIMS MAX. 5/16" DIA. OR 4R1

DO NOT COPY, DISPLAY, OR USE DRAWING WITHOUT
AUTHORIZATION - DO NOT SCALE DRAWING

DATA	CRG.	BATES	APP.	BATES	
DWN.	JTM	DATE	2-9-98	SCALE	FULL

SCHLUMBERGER WELL SURVEYING CORP.
HOUSTON, TEXAS

NEUTRON SOURCE, RADIOACTIVE
(RECYCLED) ^{Am-Be}
5 CURIE

ASSEMBLY DWG. H357074

H200286

WHERE USED



U.S. Department of
Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

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

CERTIFICATE NUMBER: USA/0113/S-96

ORIGINAL REGISTRANT(S) :

:

Schlumberger
Princeton Technology Center
20 Wallace Road
Princeton Junction, NJ, 08550
USA