



U.S. Department
of Transportation

Pipeline and
Hazardous Materials
Safety Administration

IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE USA/0205/S-96, REVISION 5

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 - ORNL Capsule Ir-192.
2. Source Description - The source described by this certificate is a tungsten-inert-gas welded outer capsule with external dimensions of 50.8 mm (2.0 in.) length and 12.7 mm (0.5 in.) diameter. It may either be a single encapsulation of Type ASTM A276 carbon steel, in accordance with ORNL (Lockheed-Martin) Drawing No. N3D020566A095, or of Type 410 stainless steel, in accordance with Union Carbide Corporation Drawing No. B-SK-1716 (attached); or it may be a double encapsulation with outer and inner capsule and assembly drawings in accordance with Union Carbide Corporation Drawings Nos. B-SK-1716, B-SK-1997, and B-SK-2016, respectively.
3. Radioactive Contents - Not more than 185 TBq (5,000 Ci) of either Co-60 or Ir-192 as metal wafers, pellets, or wire.
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 May 31, 2012.

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.

CERTIFICATE USA/0205/S-96, REVISION 5

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 April 26, 2007 petition by Department of Energy, Washington, DC, and in consideration of other information on file in this Office.

Certified By:



May 11 2007

(DATE)

Bob Richard

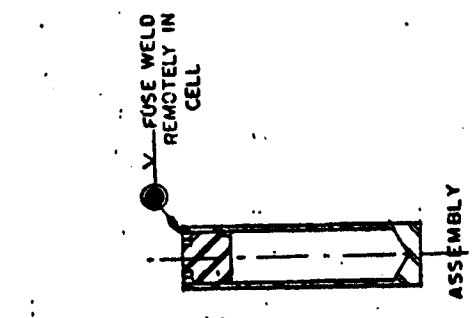
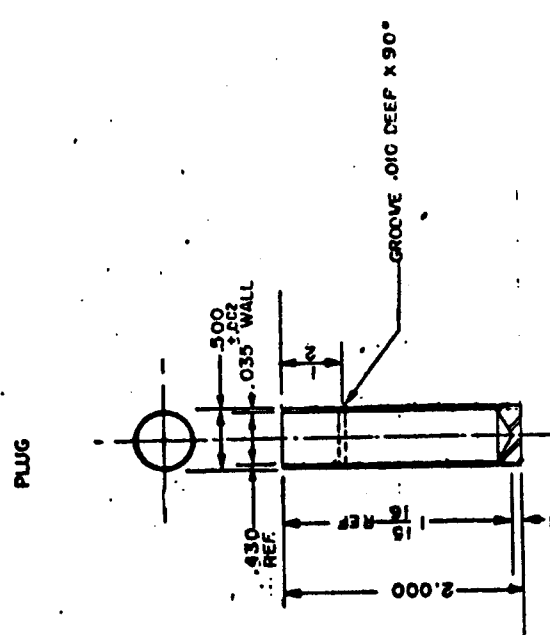
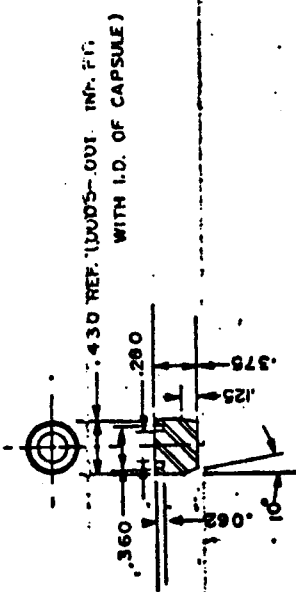
Deputy Associate Administrator for Hazardous Materials Safety

Revision 5 - Issued to extend the expiration date and revise the capsule plug manufacturing specification.

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APPROV.					
1	3-10-60	CS	ADDED NOTE 3						
2	5-4-60	CS	ADDED NOTE 4						
3	5-28-60	CS	ADDED ASSEMBLY						

MATERIAL-PLUG 6 CAPSULE-410 SST ROUND BAR PER ASTM 2A 76

- NOTES
1. ALL MACHINED SURFACES TO BE $< 10^{-7} \text{ cm}^2/\text{SEC}$.
 2. HELIUM LEAK TEST CAPSULE BY METHOD SENSITIVE TO $< 10^{-7} \text{ cm}^2/\text{SEC}$.
 3. AFTER MACHINING, CENTERLESS GRIND O.D. TO .494 MIN.
 4. AFTER GRINDING, ELECTROPOLISH AS 300 SERIES SST PEP P B E PROCEDURE C.A-13-F3



QUALITY ASSURANCE INCORPORATION REQUIREMENTS*

NO.	DESCRIPTION	IN COMPLIANCE	DATE	BY
1	INTERNAL MILL CERTIFICATION	X		
2	ISO-9000 INTERNAL INSPECTION REPORTS	X		
3	ISO-9000 INTERNAL INSPECTION REPORTS	X		
4	COMP. MANUFACTURING AND INSPECTION PLAN			
5	CONST. PLAN AND INSPECTION PLAN			
6	INTERNAL/PAINT TOLERANCE			
7	WELD AND/OR BRASS INSPECTION REPORTS			
8	HEAT TREAT REPORT WITH I.A. CERTS			
9	INTERNAL INSPECTION AND REPORTS**			
10	PRESSURE TEST REPORTS	X		
11	LEAK TEST REPORTS			
12	CLEANING REPORTS			
13	NON-Destructive TESTS			
14	FUNCTIONAL TEST REPORTS			
15	COMPLETED FOR COMPLIANCE			
16				
17				

**INSPECTION STRONG LEGEND

① SECOND ACTUAL DIM. (IN OR OUT OF TOLERANCE)

② SECOND OUT OF TOLERANCE DIM. ONLY (RECORD IN TOL. DIM.)

William H. Cook 1-18-79 DATE

UNION CARBIDE CORPORATION NUCLEAR DIVISION 600 N. High Street, York, Pennsylvania 17402	
IRIDIUM-192 CAPSULE	
DESIGN: 1-16-79 SEG	DATE: 1-18-79
CHECKED: 1-17-79 CJ	SECTION: 1-18-79 A2/S
OPERATOR: DWG CSK 1997	SCALE: FULL
NO. OF SHEETS: 1	SHEET: 1 OF 1
REV. NO.:	REV.:
DATE:	DATE:

NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, IS MADE THAT THE USE OF THIS PRODUCT OR THE RESULTS OF OTHERS, OR LIABILITY IS ASSURED BY THE USE OF OR THE MANUFACTURE OF THIS FORM AND THE INFORMATION AVAILABLE FROM THIS FORM IS FOR INFORMATION ONLY AND NOT TO BE USED FOR ANY OTHER PURPOSE. IT AND ARE TO BE RETURNED UPON THE COMPLETION OF THE ORDERING CONTRACT.



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

East Building, PHH-23
1200 New Jersey Avenue Southeast
Washington, D.C. 20590

CERTIFICATE NUMBER: USA/0205/S-96, Revision 5

ORIGINAL REGISTRANT(S):

Mr. Mark A. Gilbertson
Department of Energy
Washington, 20585
USA

Dr. James M. Shuler
Manager, Packaging Certification Program
Department of Energy
U.S. Department of Energy
1000 Independence Ave, SW
EM-60
Washington, DC 20585

REGISTERED USER(S):

Mr. Julio Raffo
Director of Transport Operations
Transnuclear, Inc.
7135 Minstrel Way
Suite 300
Columbia, 21045
USA

Jerry Tucker
Industrial Nuclear Company, Inc.
14320 Wicks Blvd
San Leandro, 94577
USA

Bill Huddleston
Industrial Nuclear Company, Inc.
14320 Wicks Blvd
San Leandro, 94577
USA

Dana Willaford
Transportation
U.S. Department of Energy Oak Ridge
200 Administration Rd.
Oak Ridge, TN 37830