



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/0836/S-96, REVISION 0

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 material.

1. Source Identification - ORNL Np ZipCan.
2. Source Description - An equilateral triangle shaped single encapsulation made of a titanium inner container and a stainless steel outer encapsulation that is tungsten inert gas seal welded. Approximate exterior dimensions are 57 mm (2.24 in.) on each edge and 11 mm (0.43 in.) thick. Construction shall be in accordance with attached ORNL Drawing No. N3E020995A576, Revision A.
3. Radioactive Contents - No more than  $4.42\text{E-}6$  TBq ( $1.19\text{E-}4$  Ci) of Neptunium-237. The radioactive content is neptunium oxide embedded in zirconium felt. The maximum mass of neptunium must be no more than 0.17 grams (Np element weight).

The buildup and subsequent secular equilibrium of the Protactinium-233 daughter product of Neptunium-237 must also be accounted for in the mixture of nuclides for A1 and A2 calculations as required by Sections 173.433(c)(2) and 173.433(d) of Title 49 of the Code of Federal Regulations.

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<sup>1</sup> "Regulations for the Safe Transport of Radioactive Material, 2012 Edition, No. SSR-6" published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

<sup>2</sup> 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 July 31, 2026.

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 June 9, 2021 petition by Department of Energy, Washington, DC, and in consideration of other information on file in this Office.

Certified By:



William Schoonover  
Associate Administrator for Hazardous  
Materials Safety

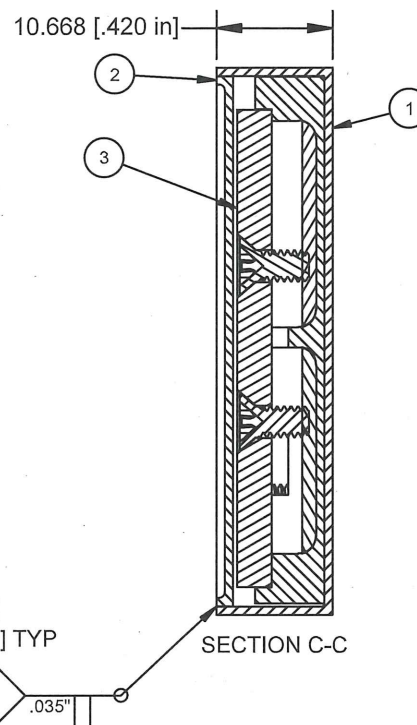
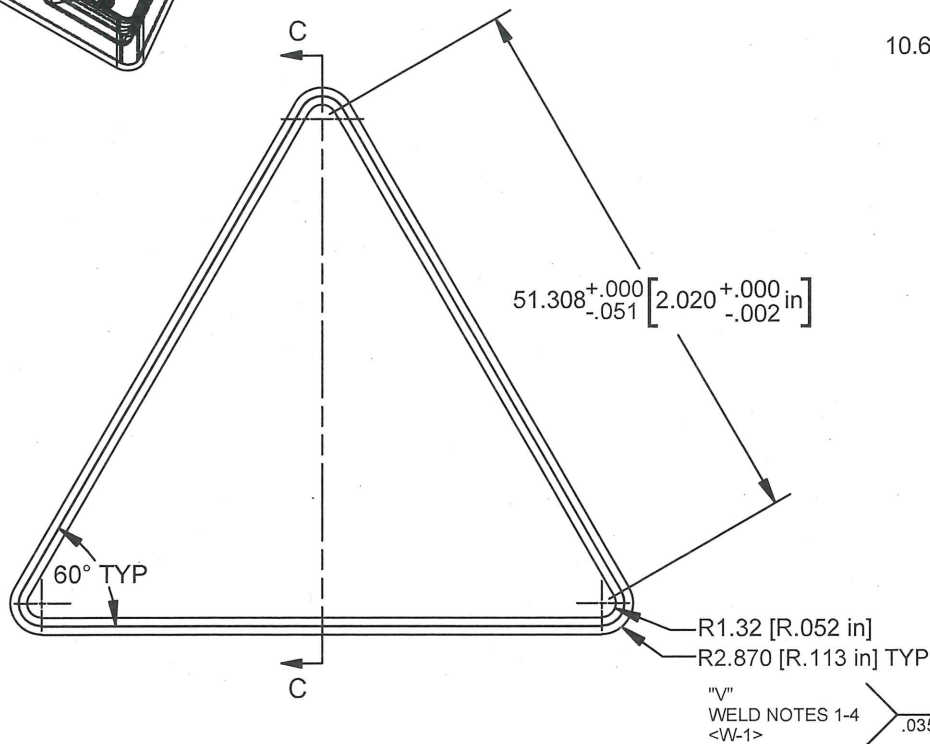
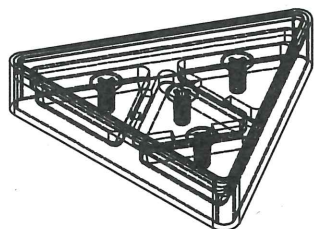
July 22, 2021

(DATE)

Revision 0 - Original issue.

PARTS LIST

ITEM	QTY	DESCRIPTION	NOTE	MATERIAL / VENDOR	MFG. PN / DET. DWG #
1	1	ORNL U ZIPCAN BASE	2	SST 304L	N3E020995A576 SHT 2
2	1	ORNL U ZIPCAN TOP	2	SST 304L	N3E020995A576 SHT 2
3	1	TITANIUM CAPSULE ASSEMBLY			N3E020995A575



GENERAL NOTES:

- [XX] ALTERNATE UNITS IN INCHES.
- ITEMS 1 AND 2 ARE TO BE DELIVERED TO ORNL WITH THE CMTR HEAT # CLEARLY LABELED ON THE PART BAG OR SIMILAR CONTAINER.

WELD NOTES:

- ALL SST WELDS PER ORNL WPS-GT88-A(PP) APPENDIX 2.
- < W - > INDICATES WELD IDENTIFICATION NUMBER. NO WELD SEQUENCE IMPLIED.
- WELD INSPECTION:  
"V" - VISUAL PER ORNL NDE-21 SHORT FORM.
- LEAK TEST TO 1.3 X 10<sup>-4</sup> STD. ATM -CC/S @ 25°C PER FHRD-NDE-70.

QUALITY VERIFICATION  
MECHANICAL AND STRUCTURAL

QV CLAUSE	DOCUMENTS REQUIRED	PROC. NO.	PART NO.
303	MAT'L MILL TEST REPORT (CERT)		1,2
325	MAT'L SELLER CERT		
326	SPECIAL MAT'L INSP. REPORT		
205	MFG. INSP. AND TEST PLAN		
312	FIELD INSP. & TEST PLAN		
314	MATERIAL MARKING		
321	WELD AND BRAZE INSP. REPORT	WELD NOTES 1-4	INDICATED
322	HEAT TREAT REPR. (W/CHART)		
310	LEAK TEST REPORT		
315	CLEANING CERT		
318	DEVIATION REQUEST	SBMS 8A DEVIATION CONTROL	✓
319	NONCONFORMANCE REPORT	SBMS 8A NONCONFORMANCE CONTROL	✓
323	DIMENSIONAL REPORT		
330	FUNCTIONAL TEST REPORT		
333	IDENTIFICATION & CONTROL OF SUSPECT/COUNTERFEIT PARTS		
★	SPECIAL PROCUREMENT REQUIRED	NNFD-10	
100	DOCUMENTATION	FOR ABOVE	

SYMBOL ✓ INDICATES APPLICABLE TO ALL PARTS OR ITEMS.

W. GEORGE ASKEW 8/24/2017  
QUALITY REPRESENTATIVE DATE

ORNL U ZIPCAN

SCALE: 1.5X  
<W-1> LAST

DEFAULT STANDARDS  
UNLESS OTHERWISE SPECIFIED

TOLERANCES:

XX DECIMALS ± 0.254  
XXX DECIMALS ± 0.127  
ANGLES ± 0° - 30'  
BREAK SHARP EDGES 1/64 MAX.  
FINISH = 125 RMS

THIS DRAWING CREATED  
IN ACCORDANCE WITH  
ANSI Y14.5M-1994

ALL DIMENSIONS ARE IN MM



NONREACTOR NUCLEAR FACILITIES DIVISION  
OAK RIDGE NATIONAL LABORATORY

Operated by UT-Battelle for the Department of Energy under U.S.  
Government contract DE-AC05-00OR22725 • Oak Ridge, Tennessee

TITLE:

ORNL U ZIPCAN

SIZE  
A

DWG NO.

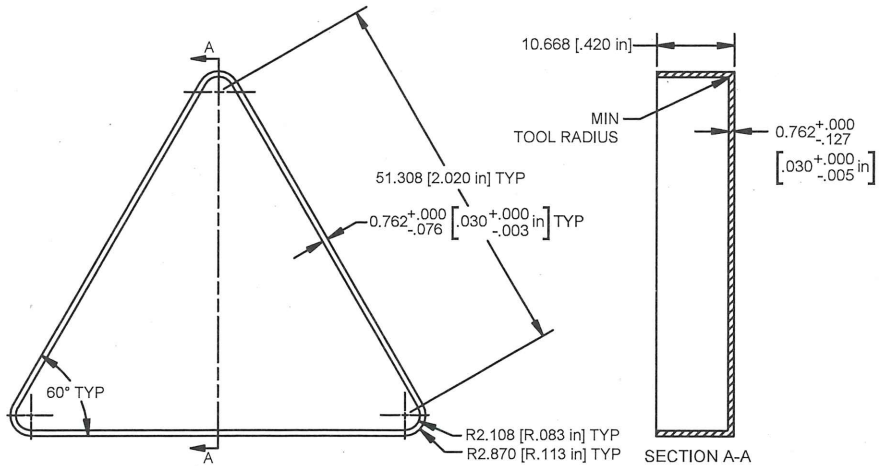
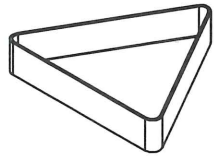
N3E020995A576

REV  
A

SCALE: 1.5X

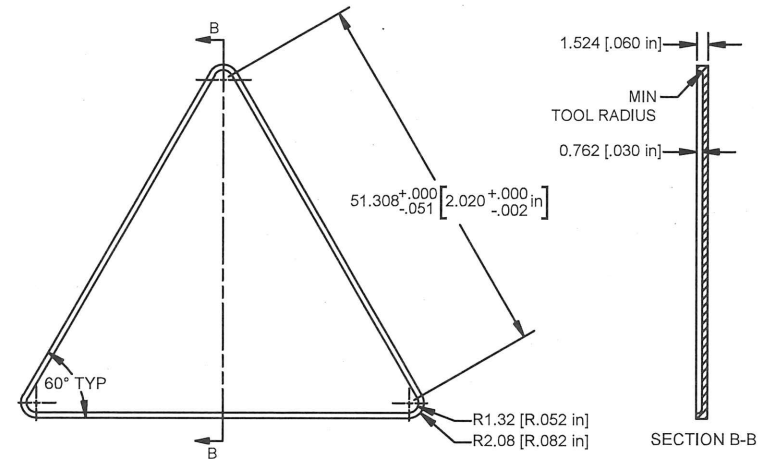
SHEET 1 OF 2

JRG	JAJ	SDM	3/13/2019
DSNR	CHECKER	WELD REVIEW	DATE
APPROVALS			



1 ORNL U ZIPCAN BASE

SCALE: 1X  
 ASSY DWG: N3E020995A576 SHT 1  
 MATERIAL: SST 304L



2 ORNL U ZIPCAN TOP

SCALE: 1X  
 ASSY DWG: N3E020995A576 SHT  
 MATERIAL: SST 304L

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 UNLESS OTHERWISE SPECIFIED

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 XXX DECIMALS ± 0.127  
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 OAK RIDGE NATIONAL LABORATORY

Operated by UT-Battelle for the Department of Energy under U.S.  
 Government contract DE-AC05-00OR22725 • Oak Ridge, Tennessee

TITLE:

ORNL U ZIPCAN

SIZE

A

DWG NO.

N3E020995A576

SCALE: 1X

SHEET 2 OF 2

REV

A

	JAJ	SDM	3/13/2019
JRG	JAJ	SDM	8/24/2017
DSNR	CHECKER	WELD REVIEW	DATE
APPROVALS			



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**CERTIFICATE NUMBER:** USA/0836/S-96

**ORIGINAL REGISTRANT(S) :**

Department of Energy  
U.S. Department of Energy  
1000 Independence Ave, SW  
EM-60  
Washington, DC, 20585  
USA