



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/0826/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 U 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 2.66E-1 TBq (7.17 Ci) of Uranium-232, 1.15E-3 TBq (3.11E-2 Ci) of Uranium-233, 7.36E-5 TBq (1.99E-3 Ci) of Uranium-234, 2.56E-7 TBq (6.91E-6 Ci) of Uranium-235, 7.68E-7 TBq (2.07E-5 Ci) of Uranium-236, and 3.84E-8 TBq (1.04E-6 Ci) of Uranium-238. The radioactive content is uranium oxide embedded in zirconium felt. The sum of the mass fractions must be no more than 3.2 grams (U element weight).
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.

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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.

**CERTIFICATE USA/0826/S-96, REVISION 0**

5. Expiration Date - This certificate expires on May 31, 2024.


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 April 23, 2019 petition by Department of Energy, Washington, DC, and in consideration of other information on file in this Office.

Certified By:

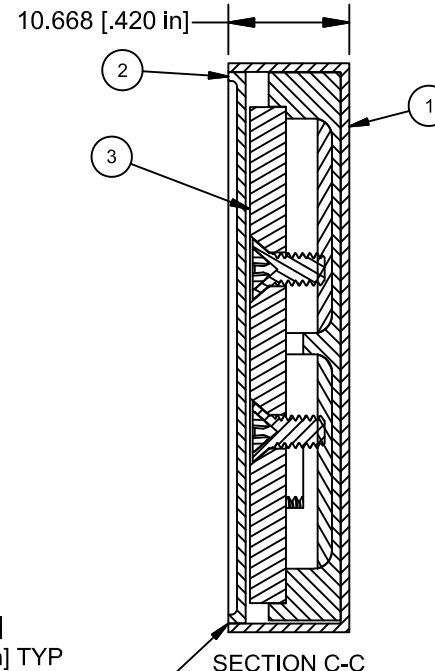
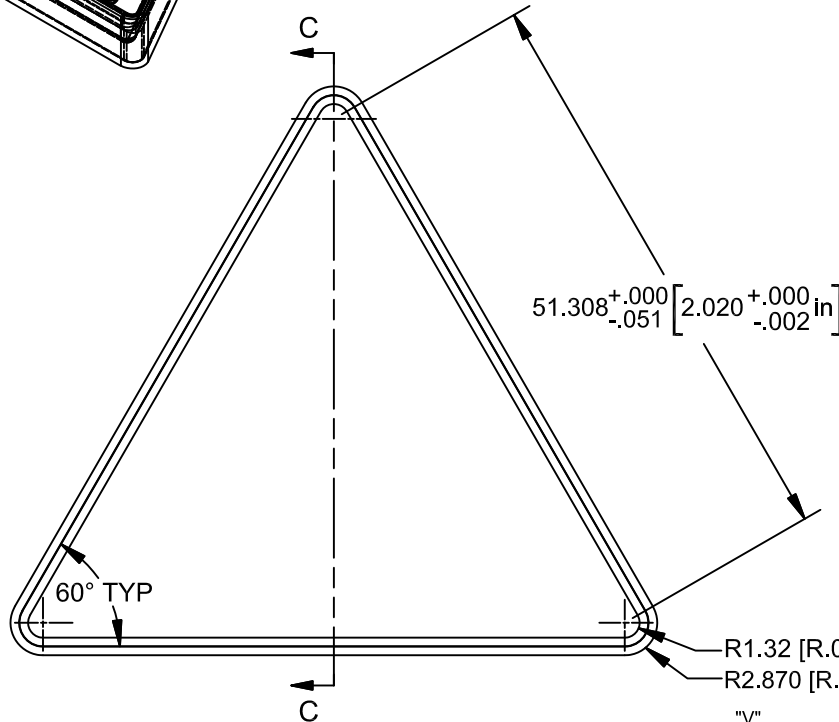
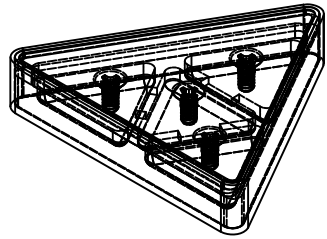


June 10, 2019

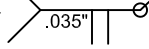
(DATE)

 William Schoonover  
Associate Administrator for Hazardous  
Materials Safety

Revision 0 - Original issue.



"V"  
WELD NOTES 1-4  
<W-1>



**ORNL U ZIPCAN**

SCALE: 1.5X  
<W-1> LAST

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  $1.3 \times 10^{-4}$  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	SBAS SA DEVIATION CONTROL	✓
319	NONCONFORMANCE REPORT	SBAS SA INCIDENT/MAKE 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

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



**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**

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

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

ALL DIMENSIONS ARE IN MM

SIZE  
**A**

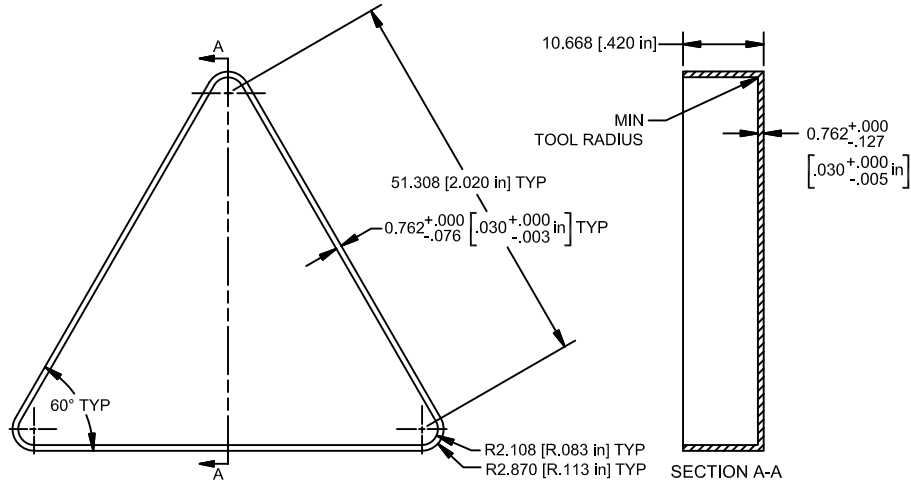
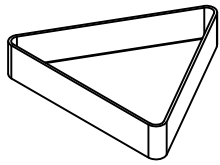
DWG NO.

**N3E020995A576**

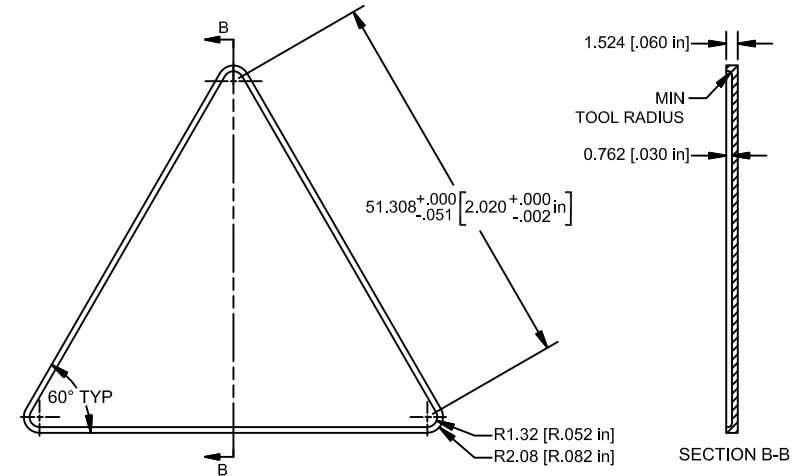
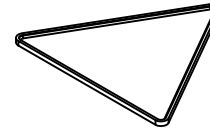
REV  
**A**

SCALE: 1.5X

SHEET 1 OF 2



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

**GENERAL NOTES:**

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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
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TITLE:		<b>ORNL U ZIPCAN</b>	
SIZE	DWG NO.	REV	
<b>A</b>	<b>N3E020995A576</b>	<b>A</b>	
SCALE: 1X	SHEET 2 OF 2		

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



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**CERTIFICATE NUMBER:** USA/0826/S-96

**ORIGINAL REGISTRANT(S) :**

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