



U.S. Department
of Transportation

Pipeline and
Hazardous Materials
Safety Administration

IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS

CERTIFICATE USA/0853/S, REVISION 0

East Building, PHH-23
1200 New Jersey Ave, SE
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 - Oak Ridge National Laboratory Model 2DX3L.
2. Source Description - Cylindrical single encapsulation made of stainless steel and tungsten inert gas welded. Approximate exterior dimensions are 76.2 mm in length and 50.8 mm in diameter. Minimum wall thickness is 1.65 mm. A threaded zircalloy or stainless-steel vial, approximately 50.8 mm in length and 22.9 mm in diameter, will be sealed inside the outer capsule. Construction shall be per attached ORNL General Arrangement Drawing No. N3A020399A450, Revision 0.
3. Radioactive Contents - Solid Ra-226 nitrate, Ra-226 carbonate, Ac-227 nitrate, or Th-228 nitrate, subject to the activity limits in the table below. This includes all daughter products with half-lives greater than 10 days. All daughter products assumed to be in equilibrium.

¹ "Regulations for the Safe Transport of Radioactive Material, 2018 Edition, No. SSR-6 (Rev. 1)" 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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Source	Chemical Form	Isotopes	Maximum Activity (TBq)	Maximum Activity (Ci)
1	Carbonate	Ra-226	5.88E-02	1.59E+00
		Pb-210	5.88E-02	1.59E+00
		Po-210	5.88E-02	1.59E+00
2	Nitrate	Ra226	5.22E-02	1.41E+00
		Pb-210	5.22E-02	1.41E+00
		Po-210	5.22E-02	1.41E+00
3	Nitrate	Ac-227	1.89E-02	5.11E-01
		Th-227	1.89E-02	5.11E-01
		Ra-223	1.89E-02	5.11E-01
4	Nitrate	Th-228	4.98E-01	1.35E+01

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 March 31, 2030. 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 March 5, 2025 petition by Department of Energy, Washington, DC, and in consideration of other information on file in this Office.

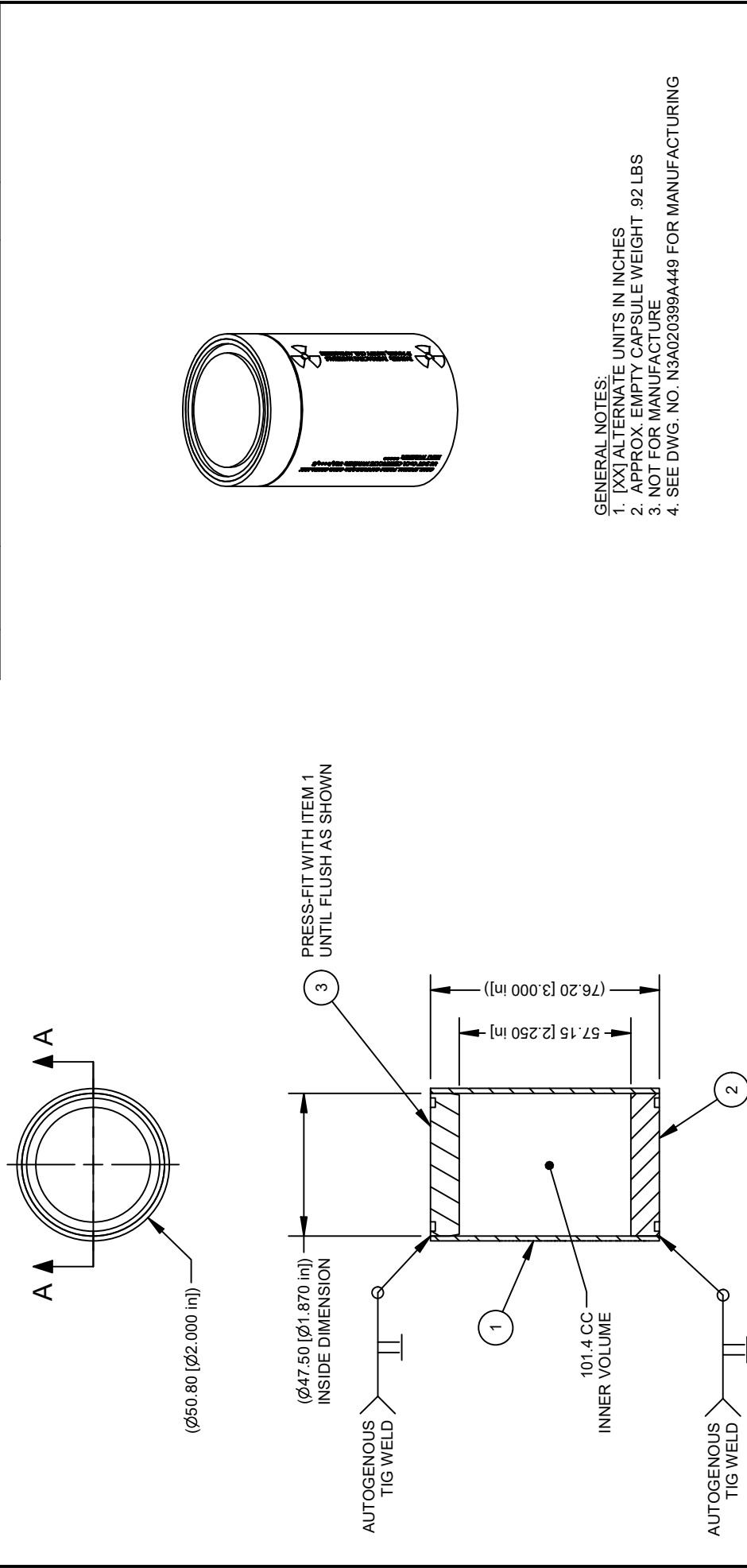
Certified By:



William Schoonover
Associate Administrator for Hazardous
Materials Safety

March 25, 2025
(DATE)

PARTS LIST			
ITEM	QTY	DESCRIPTION	MATERIAL / VENDOR
1	1	CAPSULE LINER, 2" DIA X 3" LG	SST 304L
2	1	CAPSULE BOTTOM PLUG, FOR 2" DIA	SST 304L
3	1	CAPSULE TOP PLUG, FOR 2" DIA	SST 304L



GENERAL NOTES:
1. [XX] ALTERNATE UNITS IN INCHES
2. APPROX. EMPTY CAPSULE WEIGHT .92 LBS
3. NOT FOR MANUFACTURE
4. SEE DWG. NO. N3A020399A449 FOR MANUFACTURING

NONREACTOR NUCLEAR FACILITIES DIVISION OAK RIDGE NATIONAL LABORATORY  UT-BATTELLE TITLE		DEFAULT STANDARDS UNLESS OTHERWISE SPECIFIED LINEAR, RADIAL & DIAMETRICAL DIMENSIONS DIRECTLY TOLERANCED ANGLES ± 0.5 DEG BREAK SHARP EDGES 0.4mm MAX FINISH: 125RMS		THIS DRAWING CREATED IN ACCORDANCE WITH ASME Y14.5-2018		ALL DIMENSIONS ARE IN MILLIMETERS	
		OPERATED BY UT-Battelle for the Department of Energy under U.S. Government contract DE-AC05-00OR22725 Oak Ridge, Tennessee		ORNL SPECIAL FORM CAPSULE MODEL 2DX3L GENERAL ARRANGEMENT		SCALE 1:2	
SIZE A		DAI N/A		DWG NO. N3A020399A450		REV 0	
1 OF 1		1:2		N/A		SHEET 1 OF 1	



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CERTIFICATE NUMBER: USA/0853/S

ORIGINAL REGISTRANT(S) :

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