



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/0138/S-96, REVISION 9

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 - Industrial Nucleonics Sealed Source Model No. S-16 which consists of a Monsanto Research Corporation Model No. 2431, 2431-A, or 2431-B.
2. Source Description - Source is double encapsulation of Type 304 stainless steel, except that the 0.127 mm (0.005 in.) thick inner and outer windows may be either Type 302 or 304 stainless steel. The porous spacer is Type 316 stainless steel. Welds are by tungsten-inert-gas method. Outer cylinder has diameter 33.1 mm (1.305 in.), with base of diameter 50.8 mm (2.0 in.) and thickness 3.175 mm (0.125 in.). Height is 15.9 mm (0.625 in.). Model 2431-A has an additional 22.7 mm (0.895 in.) diameter, 0.89 mm (0.035 in.) thick stainless steel disk welded into a recess on the base. Model 2431-B has same construction, with different weld configuration. Industrial Nucleonics Drawing No. DY-B-36841 for the S-16 is attached.
3. Radioactive Contents - This gamma source contains not more than 0.185 TBq (5.0 Ci) of Americium-241 in the form of americium oxide mixed with aluminum fine mesh powder.

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 January 31, 2019.

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 January 3, 2018 petition by NDC Technologies, Dayton, OH, and in consideration of other information on file in this Office.

Certified By:



William Schoonover
Associate Administrator for Hazardous
Materials Safety

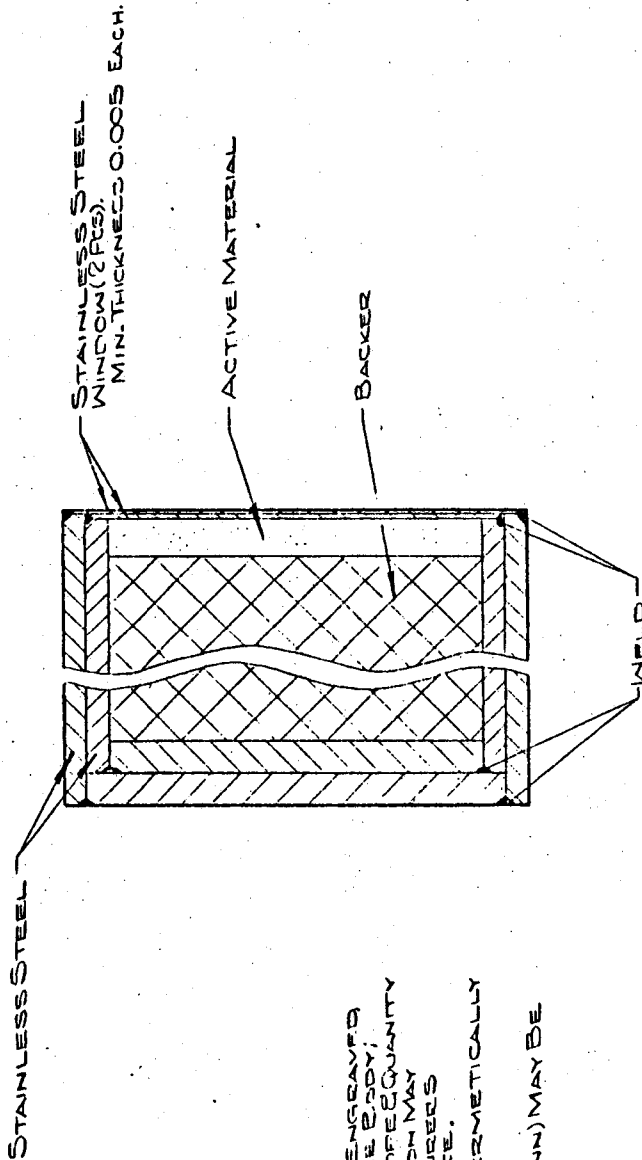
February 02, 2018
(DATE)

Revision 9 - Issued to renew the expiration date.

DWG. NO.

DY-B-3684

DWB 7/28/67
SMT 1



- NOTES**
1. SOURCE IDENTIFICATION TO BE ENGRAVED STAMPED OR AFFIXED ON SOURCE BODY. INFORMATION REQUIRED IS: IDENTIFICATION SERIAL NO., OPTICAL INFORMATION MAY INCLUDE IN, PART NO., MANUFACTURER'S PART NO., DATE OF MANUFACTURE.
 2. ALL SEALS CONTINUOUS (HERMETICALLY SEALED) HELIARC WELD.
 3. MOUNTING FLANGES (NOT SHOWN) MAY BE PRESENT.

IN. DWG. TYP.	REQ'D.	DESCRIPTION	NEXT ASSY.	PART OR BM. NO.
		Industrial Electronics / Accufay		980 ACKERMAN ROAD COLUMBUS 2, OHIO
ALL DIMENSIONS IN INCHES DO NOT SCALE DWG		TITLE	SOURCE ASSY. TYPE 5-16	
SCALE	DATE	FINISH	UNIT	
NONE	5-22-67		III-16-A	
DRAWN	CHECKED	APPROVED	DWG. NO.	
EA	EA		SMT OF DY-B-3684	
RAW MATERIAL - STANDARD COMMERCIAL TOLERANCES		APPROVED		
* VIEW SHOWN WITHOUT DIMENSIONS		250 PITCH INCH FINISH.		



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ORIGINAL REGISTRANT(S) :

NDC Technologies
8001 Technology Blvd
Dayton, OH, 45424
USA

ABB Inc.
579 Executive Campus Drive
Westerville, OH, 43082
USA