## Cofficial-Use-Only--Security-Related-Information-

NRC	FORM	374

U.S. NUCLEAR REGULATORY COMMISSION

PAGE <u>1</u> OF <u>7</u> PAGES Amendment No. 18

## MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	<u> </u>	In accordance with the letter dated				
		August 28, 2012,				
1. Department of Defense		3. License number 45-25551-01 is amended in				
Defense Threat Reduction Agenc	y/BE-BP/ESOH	its entirety to rea	id as follows:			
		· · · · · ·				
2. 8725 John J. Kingman Road, MS	C 6201	4. Expiration dat	e August 31, 2021			
Fort Belvoir, Virginia 22060-6201		5. Docket No. 030-35668				
		Reference No	).			
		<u> </u>				
<ol> <li>Byproduct, source, and/or special nuclear material</li> </ol>	7. Chemical and/or	physical form	(b)(7)(F)			
A. Gallium 67	A. Any					
B. Technetium 99m	B. Any					
C. lodine 131	C. Any					
D. Thallium 201	D. Any					
E. Hydrogen 3	E. Sealed Source Physics Corpo Generator Tub 3082)	es (Thermo MF ration Neutron e Model A-				
F. Cobalt 60	F. Sealed Source Products Labo GF-060 and G	es (Isotope ratories Model F-0245)				
G. Cobalt 60	G. Sealed Source Products Labo HEG-60-1 in A and Model 193 American Scie IND1154)	es (Isotope ratories Model 3026 Capsule 3; or North ntific Model				
H. Cadmium 109	H. Sealed Sources (Eckert & Zeigler Isotope Products Model GF-290-10D)					
I. Barium 133	<ul> <li>Sealed Sources (Isotope Products Laboratories Model GF-133 or HEG-0099)</li> </ul>					
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· · · · · · · · · · · · · · · · · · ·		(b)(7)(F)					
<ol> <li>Byproduct, source, and/or special nuclear material</li> </ol>	7. Chemical and/or phys	sical form					
J. Barium 133	J. Sealed Sources (Is Products Laborato 193)	sotope ries Model					
K. Cesium 137	K. Sealed Sources (Is Products Laborato GF-137 or HEG-00	sotope ries Model 099)					
L. Cesium 137	L. Sealed Sources (Is Products Laborato 193)	sotope ries Model					
M. Cesium 137	M. Sealed Sources (E Merck Pharmaceu Model 570 Series)	DuPont tical Co.					
N. Europium 152	N. Sealed Sources (Is Products Laborato GF-152)	sotope ries Model					
O. Europium 152	O. Sealed Sources (Is Products Laborato 193)	sotopes ries Model					
P. Bismuth 207	P. Sealed Sources (Is Products Laborato GF-207)	Sealed Sources (Isotope Products Laboratories Model GF-207)					
Q. Uranium 235 (Enriched)	Q. Sealed Sources (C National Laborator NMLDS-001, Ame National Standards (ANSI) 96E66646, Model number XY-	Sealed Sources (Oakridge National Laboratory Model NMLDS-001, American National Standards Institute (ANSI) 96E66646, SEUSS Model number XY-2.5)					
R. Plutonium 239	R. Calibration Source Isotopes Products Model LDS 239 10 LDS 239-150mm)	e (Standard Laboratory 00mm or					
S. Plutonium 239	S. Calibration Source	Calibration Source					
T. Americium 241	T. Sealed Sources (Is Products Laborato AF Series)	sotope ries' Model					
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6 Byoroduct source and/or special	7 Chemical and/or phys	(b)(7)(F)			1		
nuclear material							
U. Americium 241	U. Sealed Sources (G Inc. Model AN-HP	ammatron or AN-L-N)					
V. Americium 241	V. Americium 241 V. Sealed Sources (Iso Products Laboratorie GF-241 and Am1.NC						
W. Americium 241	W. Sealed Sources (Is Products Laborato AF Series GF-241	otope ies Model D)					
X. Curium 244	X. Sealed Sources (Is Products Laborato AF Series)	otope ies Model					
Y. Californium 252	<ul> <li>Y. Sealed Sources (Is Products Laborato N-252 or HEG-009</li> </ul>	otope ies Model Ə)					
Z. Hydrogen 3	Z. Sealed Sources (E 761 Neutron Gene	Z. Sealed Sources (EMR Model 761 Neutron Generator Tube)					
AA. Nickel 63	63 AA.Sealed Sources (Isotope Products Laboratories Model NER-004)						
BB. Nickel 63 BB. Sealed Sources (DuPont Merck Model NER-004R or AEA Technologies QSA Models NBC or NBCD)							
CC. Cadmium 109	Nodel I; Isotope B Series rth Model IND I Nuclear ipsule LE66						
or NER-465)							

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<ol> <li>Byproduct, source, and/or special nuclear material</li> </ol>	7. Chemical and/or physic	al form			
DD. Cesium 137	DD. Sealed Sources ( Model CPN-131)	CPN			
EE. Americium 241	EE. Sealed Sources ( Model CPN-131)	CPN			
FF. Cesium 137	FF. Sealed Sources (Tro Drawing No. A-1021	oxler 12)			
GG. Americium 241	GG. Sealed Sources ( Drawing No. A-1024	Troxler 51)			
HH. Californium 252	HH. Sealed Sources ( Technology Model 100 S	Frontier Series)			
<ul> <li>licensee's instruments; and teaching and training emergency responders.</li> <li>Z. Possession and storage only in a Thermo MF Physics (formerly MF Physics Corporation) Model A-325 Neutron Generator Accelerator.</li> <li>AA. In Ion Track Instruments, Inc. Model ITEMISER and VaporTracer2 Ion Mobility Spectrometers for detection of explosive and narcotic substances.</li> <li>BB. In U.S. Army Model CAM or ICAM and Graseby Dynamics Limited Model GID-3 chemical-agent detectors (APD2000) for the detection of hazardous elements.</li> <li>CC. In NITON Corporation Model XL-II Series Field Portable X-ray Fluorescence Analyzers.</li> <li>DD. through HH. Teaching and training of emergency responders.</li> </ul>					
CONDITIONS					
(b)(7)(F)					
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11.	The	Radiation Safety Officer for this license is Michael V	/. Hinton.					
12.	Α.	Licensed material 6.A through 6.D. shall be used t or Melissa Bostian.	ly, or under the super	vision	of Ri	chard	d Chi	iffelle
	В.	Licensed material 6.E. through 6.HH shall be used presence of, individuals who have received the tra 2011, August 28, 2012, and November 6, 2012.	by, or under the sup ining described in the	ervisio eletters	n an s dat	d in th ed Au	ne pl igus	iysical t 3,
13.	The	licensee shall not use licensed material in or on hun	an beings.					
14.	14. The licensee shall not use licensed material in field applications where it is released except as provided otherwise by specific condition of this license.							
15.	<ol> <li>A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed six months or at the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State.</li> </ol>			ix ar nent				
	В.	Notwithstanding Paragraph A of this Condition, se particles shall be tested for leakage and/or contain	aled sources designe ination at intervals no	d to pri ot to ex	imari ceec	ily em I 3 m	it alp onth	oha s.
	C. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.							
	D. Sealed sources need not be tested if they contain only hydrogen-3; or they contain only a radioactive gas; or the half-life of the isotope is 30 days or less; or they contain not more than 100 microcuries of beta- and/or gamma-emitting material or not more than 10 microcuries of alpha-emitting material.			n				
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	E. Sealed sources need not be tested if they are in storage and are not being used; however, when they are removed from storage for use or transferred to another person and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.					
	F. The leak test shall be capable of detecting the presence of 0.005 microcurie (185 becquerels) of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie (185 becquerels) or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(c)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations.					
	G. Tests for leakage and/or contamination, including leak test sample collection and analysis, shall b performed by the licensee or by other persons specifically licensed by the U.S. Nuclear Regulator Commission or an Agreement State to perform such services.					
	H.	Records of leak test results shall be kept in units of years.	of microcuries and shall be maintained for			
16.	Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.					
17.	. The licensee shall conduct a physical inventory every six months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory and shall include the radionuclides, quantities, manufacturer's name and model numbers, and the date of the inventory.					
18.	Sealed sources or source rods containing licensed material shall not be opened or sources removed or detached from source rods or gauges by the licensee, except as specifically authorized.					
1 <del>9</del> .	Maintenance, repair, cleaning, replacement, and disposal of foils contained in detector cells shall be performed only by the device manufacturer or other persons specifically authorized by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.					
20.	Each portable nuclear gauge shall have a lock or outer locked container designed to prevent					

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20. Each portable nuclear gauge shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport or storage, or when not under the direct surveillance of an authorized user.

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21.	Any cleaning, maintenance, or repair of the rod from the gauge shall be performed only licensed by the U.S. Nuclear Regulatory Co	gauges by the i ommissio	that requires detaching the source or source manufacturer or by other persons specifically on or an Agreement State to perform such services.				
22.	The licensee is authorized to transport licen 10 CFR Part 71, "Packaging and Transport	nsed ma ation of	terial in accordance with the provisions of Radioactive Material."				
23.	Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.						
	<ul> <li>A. Application dated June 10, 2011 (ML111670924)</li> <li>B. Letter dated July 29, 2011 (ML112130512)</li> <li>C. Letter dated August 3, 2011 (ML112210031)</li> <li>D. Letter dated August 28, 2012 (ML12254B090)</li> <li>E. Letter dated November 6, 2012 (ML12325A710)</li> </ul>						
	For the U.S. Nuclear Regulatory Commission						
Date	November 21, 2012	Ву	Original signed by Dennis R. Lawyer				
		- ,	Dennis R. Lawyer Commercial and R&D Branch Division of Nuclear Materials Safety Region I King of Prussia, Pennsylvania 19406				
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