

U.S. NUCLEAR REGULATORY COMMISSION

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, 37, 39, 40, 70 and 71, 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 1. Department of Homeland Security Countering Weapons of Mass Destruction, CWMD, Stop 0550 2. 245 Murray Lane Washington, DC 20528		In accordance with application dated April 09, 2019.	4. Expiration Date: January 31, 2035
			5. Docket No.: 030-39174 Reference No.:
6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license	9. Authorized use
A. Cobalt-57	A. Sealed Sources (Eckert & Ziegler Isotope Products dba Isotope Products Laboratories, Model GF Type D or M Series (formerly GF-XXXD or GF-XXXM)	A. 4 millicuries total	A. For use in calibration and checking of the licensee's instruments; field exercises and demonstrations; and teaching and training of individuals in civil defense activities.
B. Cobalt-60	B. Sealed Sources (Eckert & Ziegler Isotope Products dba Isotope Products Laboratories, Model 193 Series)	B. 7.5 millicuries total	B. For use in calibration and checking of the licensee's instruments; field exercises and demonstrations; and teaching and training of individuals in civil defense activities.
C. Tin-113	C. Sealed Sources (Eckert & Ziegler Isotope Products dba Isotope Products Laboratories, Model GF Type D or M Series (formerly GF-XXXD or GF-XXXM Series))	C. 300 microcuries total	C. For use in calibration and checking of the licensee's instruments; field exercises and demonstrations; and teaching and training of individuals in civil defense activities.

MATERIALS LICENSE SUPPLEMENTARY SHEET

License Number
08-35547-01

Docket or Reference Number
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| 6. Byproduct, source, and/or special nuclear material | 7. Chemical and/or physical form | 8. Maximum amount that licensee may possess at any one time under this license | 9. Authorized use |
| D. Barium-133 | D. Sealed Sources (Eckert & Ziegler Isotope Products dba Isotope Products Laboratories, Model 193 Series; GF Type D or M Series (formerly GF-XXXD or GF-XXXM Series); HEG-XXX Series (Formerly 225)) | D. 81 millicuries total | D. For use in calibration and checking of the licensee's instruments; field exercises and demonstrations; and teaching and training of individuals in civil defense activities. |
| E. Cesium-137 | E. Sealed Sources (Eckert & Ziegler Isotope Products dba Isotope Products Laboratories, Model 193 Series; GF Type D or M Series (formerly GF-XXXD or GF-XXXM Series)) | E. 100 millicuries total | E. For use in calibration and checking of the licensee's instruments; field exercises and demonstrations; and teaching and training of individuals in civil defense activities. |
| F. Gadolinium-153 | F. Sealed Sources (Eckert & Ziegler Isotope Products dba Isotope Products Laboratories, Model GF Type D or M Series (formerly GF-XXXD or GF-XXXM Series)) | F. 8.6 millicuries total | F. For use in calibration and checking of the licensee's instruments; field exercises and demonstrations; and teaching and training of individuals in civil defense activities. |
| G. Europium-155 | G. Sealed Sources (Eckert & Ziegler Isotope Products dba Isotope Products Laboratories, Model GF Type D or M Series (formerly GF-XXXD or GF-XXXM Series)) | G. 2.5 millicuries total | G. For use in calibration and checking of the licensee's instruments; field exercises and demonstrations; and teaching and training of individuals in civil defense activities. |

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SUPPLEMENTARY SHEET**License Number
08-35547-01Docket or Reference Number
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| H. Lutetium-177 | H. Sealed Sources (Eckert & Ziegler Isotope Products dba Isotope Products Laboratories, Model GF Type D or M Series (formerly GF-XXXD or GF-XXXM Series)) | H. 870 microcuries total | H. For use in calibration and checking of the licensee's instruments; field exercises and demonstrations; and teaching and training of individuals in civil defense activities. |
| I. Radium-226 | I. Sealed Sources (Eckert & Ziegler Isotope Products dba Isotope Products Laboratories, Model HEG-XXX Series (Formerly 225)) | I. 80 microcuries total | I. For use in calibration and checking of the licensee's instruments; field exercises and demonstrations; and teaching and training of individuals in civil defense activities. |
| J. Thorium-228 | J. Sealed Sources (Eckert & Ziegler Isotope Products dba Isotope Products Laboratories, Model GF Type D or M Series (formerly GF-XXXD or GF-XXXM Series)) | J. 55 microcuries total | J. For use in calibration and checking of the licensee's instruments; field exercises and demonstrations; and teaching and training of individuals in civil defense activities. |
| K. Americium-241 | K. Sealed Sources (Eckert & Ziegler Isotope Products dba Isotope Products Laboratories, Model PHI-XXX GFS Series (Formerly GFS Series)) | K. 46 microcuries total | K. For use in calibration and checking of the licensee's instruments; field exercises and demonstrations; and teaching and training of individuals in civil defense activities. |
| L. Californium-252 | L. Sealed Neutron Source (Eckert & Ziegler Isotope Products dba Isotope Products Laboratories, Model HEG-XXX Series (Formerly 225); N-252 Series) | L. 330 microcuries total | L. For use in calibration and checking of the licensee's instruments; field exercises and demonstrations; and teaching and training of individuals in civil defense activities. |

CONDITIONS

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
08-35547-01Docket or Reference Number
030-39174

10. Licensed material may be used at temporary jobsites anywhere in the United States.
11. Licensed material shall only be used by, or under the supervision of, Robert Whitehurst, Michael Holden or Sean Hearn.
12. The Radiation Safety Officer (RSO) for this license is Margaret C. Myers.
13. Each sealed source containing licensed material to be used outside of a shielded exposure device shall have a durable, legible, and visible tag permanently attached by a durable ring. The tag shall be at least 1 inch square, shall bear a conventional radiation symbol prescribed in 10 CFR 20.1901(a), and a minimum of the following instructions: "DANGER - RADIOACTIVE MATERIAL," "DO NOT HANDLE" and "NOTIFY CIVIL AUTHORITIES IF FOUND."
14. A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State. In the absence of a registration certificate, sealed sources shall be tested for leakage and/or contamination at intervals not to exceed 6 months, or at such other intervals as specified.
- B. Notwithstanding Paragraph A of this Condition, sealed sources designed to primarily emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.
- 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 by 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. The leak test shall be capable of detecting the presence of 185 becquerels (0.005 microcuries) of radioactive material on the test sample. If the test reveals the presence of 185 becquerels (0.005 microcuries) 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.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
08-35547-01Docket or Reference Number
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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. Analysis of leak test samples and/or contamination shall be performed by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services. The licensee is authorized to collect leak test samples but not perform the analysis.
- G. Records of leak test results shall be kept in units of becquerels (microcuries) and shall be maintained for 3 years.
15. The licensee shall conduct a physical inventory every 6 months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sealed sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 3 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.
16. Sealed sources, Source rods, Foil sources, or Detector cells containing licensed material shall not be opened or sources removed from source holders or detached from source rods, or foil sources removed from detector cells by the licensee, except as specifically authorized.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
08-35547-01Docket or Reference Number
030-39174

17. 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. This license condition applies only to those procedures that are required to be submitted in accordance with the regulations. 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.

- A. Application dated April 9, 2019 (ML19119A281)
- B. Letter received June 20, 2019 (ML19218A150)
- C. Letter received August 1, 2019 (ML19218A155)
- D. Letter dated November 22, 2019 (ML20006F998)



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: January 27, 2020By: _____
Leonardo Wardrobe
Region 1