

U.S. NUCLEAR REGULATORY COMMISSION

Amendment No. 8

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.

<p style="text-align: center;">Licensee</p> <p>1. Department of the Army 20th Command (CBRNE)</p> <p>2. 2400 21st Street Aberdeen Proving Ground, Maryland 21010-5424</p>	<p>In accordance with the application dated March 10, 2016,</p> <p>3. License number 19-31127-01 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date August 31, 2026</p> <hr/> <p>5. Docket No. 030-37133 Reference No.</p>
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<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Californium 252</p> <p>B. Sodium 22</p> <p>C. Cobalt 57</p> <p>D. Cobalt 60</p> <p>E. Barium 133</p> <p>F. Cesium 137</p> <p>G. Europium 152</p>	<p>7. Chemical and/or physical form</p> <p>A. Sealed Sources (Frontier Technology Corporation Model FTC Model 100 series)</p> <p>B. Sealed Sources (Eckert & Ziegler Isotope Products Models HEG-022 series and GF Type D series)</p> <p>C. Sealed Sources (Eckert & Ziegler Isotope Products Model HEG-1)</p> <p>D. Sealed Sources (Eckert & Ziegler Isotope Products Model GF Type D series)</p> <p>E. Sealed Sources (Eckert & Ziegler Isotope Products Models HEG-133 and GF Type D series)</p> <p>F. Sealed Sources (Eckert & Ziegler Isotope Products Model GF Type D series)</p> <p>G. Sealed Sources (Eckert &</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 2.7 millicuries per source and 135 millicuries total</p> <p>B. 12.022 millicuries total and no single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State.</p> <p>C. 54 millicuries per source and 54 millicuries total</p> <p>D. 30 microcuries per source and 30 microcuries total</p> <p>E. 1352 microcuries per source and 1352 microcuries total</p> <p>F. 100 microcuries per source and 100 microcuries total</p> <p>G. 40 microcuries per source and</p>
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|---|---|---|
| 6. Byproduct, source, and/or special nuclear material | 7. Chemical and/or physical form

Ziegler Isotope Products
Model GF Type D series) | 8. Maximum amount that licensee may possess at any one time under this license

40 microcuries total |
| H. Americium 241 | H. Sealed Sources (Eckert & Ziegler Isotope Products Models AMRB 3135, GF Type D series, and PHI GFS series; DuPont Model NES-128S; and Amersham Model AMR-1151) | H. 724 microcuries total and no single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State. |

9. Authorized use:

- A. In Portable Isotopic Neutron Spectrometer for non-intrusive analysis, training of authorized users, training exercises, operation checks of instruments, and for storage of sources for the conduct of military operations including contingency purposes or emergency response.
- B. through H. For use in training exercises, instrument operational checks, and calibration and/or reference standards.

CONDITIONS

10. Licensed material may be used or stored only at the licensee's facilities located at:
- A. US Army 20th CBRNE Command, Analytical and Remediation Activity (CARA), Aberdeen Proving Ground, Maryland
 - B. US Army 20th CBRNE Command, Nuclear Disablement Team (NDT), Aberdeen Proving Ground, Maryland
 - C. CARA-Rapid Remediation West (RRW), Pline Bluff, Arkansas
 - D. US Army 110th Chemical Battalion (CM BN), Joint Base Lewis-McChord, Washington
 - E. US Army 759th Ordnance Company (OD CO), Explosive Ordnance Disposal (EOD), Fort Irwin, California
 - F. US Army 705th Ordnance Company (OD CO), Explosive Ordnance Disposal (EOD), Fort Polk, Louisiana
 - G. US Army 2D CM BN, 68th Chemical Company (CM CO) (TEU), Fort Hood, Texas
 - H. 22D CM BN, 46th CM CO (TEU), Fort Bliss, Texas
 - I. US Army 83D CM BN, 25th CM Co (TEU), Fort Stewart, Georgia
 - J. CARA-RRW, Redstone Arsenal, Alabama
 - K. temporary job sites of the licensee anywhere in the United States.

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11. Licensed material shall be used by, or under the supervision of, individuals who have received the training described in application dated March 10, 2016 and the letter dated June 13, 2016, and have been designated, in writing, by the Radiation Safety Officer. The licensee shall maintain records of individuals designated as users for 3 years following the last use of licensed material by the individual.
12. The Radiation Safety Officer for this license is Barry Scott Davidson.
13. 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.
- B. 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.
- C. 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.
- D. 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.
- E. Tests for leakage and/or contamination, including leak test sample collection and analysis, shall be performed by the licensee or by other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
- F. Records of leak test results shall be kept in units of microcuries and shall be maintained for 5 years.
14. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
15. 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,

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and the date of the inventory.

16. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
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. 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 March 10, 2016 (ML16085A076)
- B. Letter dated June 13, 2016 (ML16180A211)



For the U.S. Nuclear Regulatory Commission

Date August 24, 2016

By

Original signed by Dennis R. Lawyer

Dennis R. Lawyer
Commercial, Industrial, R&D and Academic Branch
Division of Nuclear Materials Safety
Region I
King of Prussia, Pennsylvania 19406