

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.

<p style="text-align: center;">Licensee</p> <p>1. Department of the Army, US Army Aberdeen Test Center</p> <p>2. TEAT-COM 6943 Collieran Road, Building 400 Aberdeen Proving Ground, MD 21005-5059</p>	<p>In accordance with the letter dated January 25, 2019,</p>	<p>4. Expiration Date: February 28, 2024</p>
	<p>3. License number: SUB-834 is amended in its entirety to read as follows:</p>	<p>5. Docket No.: 040-07354 Reference No.:</p>

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
<p>A. Uranium (Natural)</p>	<p>A. Any</p>	<p>A. 5 kilograms total</p>	<p>A. For use in munitions, projectiles, and other components; as armor and shielding material; as simulator of special nuclear devices; and in testing of various components including the routine test firing of ammunition into an enclosed facility against conventional armor and/or armor incorporating depleted uranium; test firing of depleted uranium munitions for accuracy against "soft targets"; and for processes which may be used in the disassembly of targets, structures, or vehicles that contain or are contaminated with depleted uranium; and as waste from U.S. tenants located at Aberdeen Proving Ground.</p>

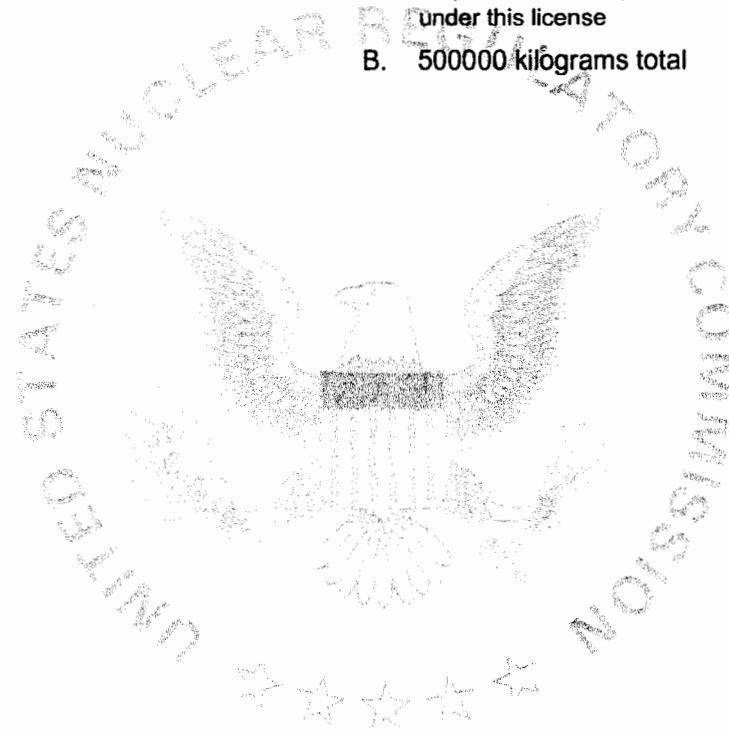
**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number
SUB-834

Docket or Reference Number
040-07354

Amendment No. 41

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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 |
| B. Uranium- depleted in Uranium-235 | B. Alloy | B. 500000 kifograms total | B. For use in munitions, projectiles, and other components; as armor and shielding material; as simulator of special nuclear devices; and in testing of various components including the routine test firing of ammunition into an enclosed facility against conventional armor and/or armor incorporating depleted uranium; test firing of depleted uranium munitions for accuracy against "soft targets"; and for processes which may be used in the disassembly of targets, structures, or vehicles that contain or are contaminated with depleted uranium; and as waste from U.S. tenants located at Aberdeen Proving Ground. |



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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 |
| C. Thorium-232 | C. Any | C. 5 kilograms total | C. For use in munitions, projectiles, and other components; as armor and shielding material; as simulator of special nuclear devices; and in testing of various components including the routine test firing of ammunition into an enclosed facility against conventional armor and/or armor incorporating depleted uranium; test firing of depleted uranium munitions for accuracy against "soft targets"; and for processes which may be used in the disassembly of targets, structures, or vehicles that contain or are contaminated with depleted uranium; and as waste from U.S. tenants located at Aberdeen Proving Ground. |
| D. Thorium-230 | D. Sealed Sources | D. 100 grams total | D. For use in calibration and checking of the licensee's instruments. |

CONDITIONS

10. Licensed material may be used or stored only at the licensee's facilities located at Aberdeen Proving Ground, Maryland.
11. A. Licensed material shall only be used by, or under the supervision of, individuals designated, in writing, by the Radiation Safety Committee. The licensee shall maintain records of individuals designated as users for 3 years after the individual's last use of licensed material.
- B. The Radiation Safety Officer (RSO) for this license is Stephen Acker.

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12. The licensee shall not use the licensed material in or on humans.
13. The total amount of depleted uranium contained in spent munitions which may remain in the Outdoor Target Area under the authorization of this license shall not exceed 200,000 kilograms. Records of inventory of material fired into and retrieved from the Outdoor Target Area shall be maintained.
14. The licensee shall not conduct destructive tests involving source material such that airborne radioactivity would be released to the unrestricted areas as defined in 10 CFR 20.1003.
15. 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. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to any use or transfer as a sealed source.
- D. 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.
- E. 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.

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- F. 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.
- G. 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.
- H. Tests for leakage and/or contamination, including leak test sample collection and analysis, shall be performed by the licensee or other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
- I. Records of leak test results shall be kept in units of becquerels (microcuries) and shall be maintained for 3 years.
16. Sealed sources containing licensed material shall not be opened or sources removed from source holders by the licensee, except as specifically authorized.
17. 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.

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18. 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 August 27, 2008 (ML082600638)
- B. Letter dated October 28, 2008 (ML083090767)
- C. Letter dated December 15, 2008 (ML090510146)
- D. Letter dated October 12, 2010 (ML103130519)
- E. Application dated October 27, 2014 (ML14310A595)
- F. Application dated January 26, 2015 (ML154043A140)
- G. Letter dated August 31, 2015 (ML15272A524)

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: March 6, 2019By: Dennis Lawyer
Region 1