

**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</p>	<p>In accordance with letter dated July 29, 2016,</p>	<p>4. Expiration Date: July 31, 2021</p>
<p>2. U. S. Army Research Laboratory ATTN: RDRL-LO 2800 Powder Mill Road Adelphi, MD 20783</p>	<p>3. License number: SMB-141 is amended in its entirety to read as follows:</p>	<p>5. Docket No.: 040-06394 Reference No.:</p>

<p>6. Byproduct, source, and/or special nuclear material</p>	<p>7. Chemical and/or physical form</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p>	<p>9. Authorized use</p>
<p>A. Uranium-Natural</p>	<p>A. Metal</p>	<p>A. 100 kilograms total</p>	<p>A. For research and development as defined in 10 CFR 30.4; fabrication, modification, testing of components, parts and/or devices; laboratory analysis and measurement studies; calibration of licensee instruments; munitions testing; and processing and handling of waste from other Department of the Army tenants located at Aberdeen Proving Ground and Adelphi Laboratory Center.</p>

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number  
SMB-141

Docket or Reference Number  
040-06394

Amendment No. 37

6. Byproduct, source, and/or special nuclear material

B. Uranium- depleted in Uranium-235

C. Thorium-228

7. Chemical and/or physical form

B. Metal

C. Sealed Sources

8. Maximum amount that licensee may possess at any one time under this license

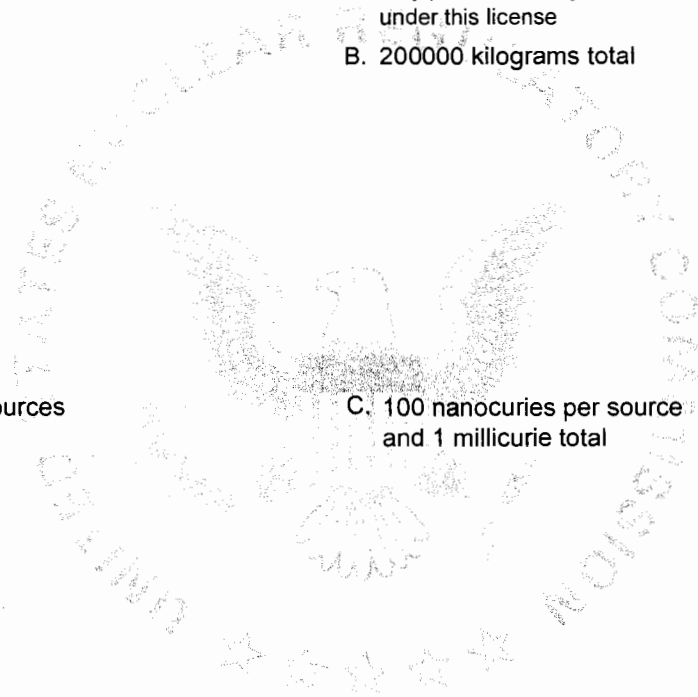
B. 200000 kilograms total

C. 100 nanocuries per source and 1 millicurie total

9. Authorized use

B. For research and development as defined in 10 CFR 30.4; fabrication, modification, testing of components, parts and/or devices; laboratory analysis and measurement studies; calibration of licensee instruments; munitions testing; and processing and handling of waste from other Department of the Army tenants located at Aberdeen Proving Ground and Adelphi Laboratory Center.

C. For research and development as defined in 10 CFR 30.4; fabrication, modification, testing of components, parts and/or devices; laboratory analysis and measurement studies; calibration of licensee instruments; munitions testing; and processing and handling of waste from other Department of the Army tenants located at Aberdeen Proving Ground and Adelphi Laboratory Center.



**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number  
SMB-141

Docket or Reference Number  
040-06394

Amendment No. 37

6. Byproduct, source, and/or special nuclear material

D. Thorium-230

E. Thorium-232

7. Chemical and/or physical form

D. Plated Sources

E. Metal

8. Maximum amount that licensee may possess at any one time under this license

D. 36 nanocuries per source and 144 nanocuries total

E. 100 kilograms total

9. Authorized use

D. For research and development as defined in 10 CFR 30.4; fabrication, modification, testing of components, parts and/or devices; laboratory analysis and measurement studies; calibration of licensee instruments; munitions testing; and processing and handling of waste from other Department of the Army tenants located at Aberdeen Proving Ground and Adelphi Laboratory Center.

E. For research and development as defined in 10 CFR 30.4; fabrication, modification, testing of components, parts and/or devices; laboratory analysis and measurement studies; calibration of licensee instruments; munitions testing; and processing and handling of waste from other Department of the Army tenants located at Aberdeen Proving Ground and Adelphi Laboratory Center.

**CONDITIONS**

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**License Number  
SMB-141Docket or Reference Number  
040-06394

Amendment No. 37

10. Licensed material may be used or stored only at the licensee's facilities located at 321 Colleran Road, Aberdeen Proving Ground, Maryland or Adelphi Laboratory Center, 2800 Powder Mill Road, Adelphi, Maryland, and may be used at temporary job sites of the licensee anywhere in the United States
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 following the last use of license material by the individual.
- B. The Radiation Safety Officer (RSO) for this license is Patrick Marine.
12. The licensee shall not use the licensed material in or on humans.
13. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific condition of this license.
14. Sealed sources or detector cells containing licensed material shall not be opened by the licensee, except as specifically authorized.
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.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**License Number  
SMB-141Docket or Reference Number  
040-06394

Amendment No. 37

16. 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. Letter dated May 31, 2011 (ML111590787)

B. Application dated September 18, 2015 (ML15273A388)

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: October 17, 2016By: Elizabeth Ulrich  
Region 4