

**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>Licensee</p> <p>1. University of the District of Columbia College of Arts and Sciences</p> <p>2. 4200 Connecticut Avenue, N.W. Washington, D.C. 20008</p>	<p>In accordance with the letter dated April 3, 2015,</p> <p>3. License number 08-16631-02 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date May 31, 2015</p> <hr/> <p>5. Docket No. 030-19607 Reference No.</p>	
<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Phosphorus 32</p> <p>B. Sulfur 35</p> <p>C. Tin 119m</p>	<p>7. Chemical and/or physical form</p> <p>A. Any</p> <p>B. Any</p> <p>C. Sealed Sources (Amersham Model TXDK 4418; WEB Research Corporation Model MSn9 Series)</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 1 millicurie</p> <p>B. 1 millicurie</p> <p>C. 15 millicuries per source and 30 millicuries total</p>
<p>9. Authorized use:</p> <p>A. and B. For research and development as defined in 10 CFR 30.4.</p> <p>B. For use in Ranger Corp. Model MS900 Mossbauer Spectrometer.</p>		

**CONDITIONS**

10. Licensed material may be used or stored only at the licensee's facilities located at 4200 Connecticut Avenue, N.W., Washington, D.C.
11. Licensed material identified in Items 6.A. and 6.B. shall be used by, or under the supervision of, Carolyn Cousin, Ph.D., Freddie Mae Dixon, Ph.D., or Deepak Kumar, Ph.D. Licensed material identified in Item 6.C. shall be used by, or under the supervision of George Eng, Ph.D.
12. The Radiation Safety Officer for this license is Okjin Kim, Ph.D.
13. The licensee shall not use licensed material in or on human beings.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**License Number  
08-16631-02Docket or Reference Number  
030-19607

Amendment No. 12

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 not use licensed material in field applications where it is released except as provided otherwise by specific condition of this license.
16. 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.
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.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**License Number  
08-16631-02Docket or Reference Number  
030-19607

Amendment No. 12

18. The licensee is authorized to hold byproduct material with a physical half-life of less than or equal to 120 days for decay-in-storage before disposal without regard to its radioactivity if the licensee:
- A. Monitors byproduct material at the surface before disposal and determines that its radioactivity cannot be distinguished from the background radiation level with an appropriate radiation detection survey meter set on its most sensitive scale and with no interposed shielding; and
  - B. Removes or obliterates all radiation labels, except for radiation labels on materials that are within containers and that will be managed as biomedical waste after they have been released from the licensee; and
  - C. Maintains records of the disposal of licensed materials for 3 years. The record must include the date of disposal, the survey instrument used, the background radiation level, the radiation level measured at the surface of each waste container, and the name of the individual who performed the disposal.
19. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
20. 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 December 22, 2004 (ML043420365)
  - B. Letter dated April 2005 (ML051380201)

For the U.S. Nuclear Regulatory Commission

***Original signed by Sattar Lodhi***Date May 4, 2015

By

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