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## DEPARTMENT OF THE ARMY

U.S. ARMY LABORATORY COMMAND  
MATERIALS TECHNOLOGY LABORATORY  
WATERTOWN, MASSACHUSETTS 02172-0001



REPLY TO  
ATTENTION OF

AMCSF-P/89-0029

SLCMT-DHS (385)

2 March 1989

/em

MEMORANDUM FOR: U.S. Nuclear Regulatory Commission, Region I, ATTN: Mr. John D. Kenneman, Nuclear Safety Section B, Division of Radiation Safety and Safeguards, 475 Allendale Road, King of Prussia, PA 19406

THRU: Headquarters, US Army Laboratory Command, ~~ATTN: AMSLC-SO (Mr. M. Boricky)~~, 2800 Powder Mill Road, Adelphi, MD 20783-1145

THRU: Headquarters, US Army Materiel Command, ATTN: AMCSF-P (Ms. P. Elker), 5001 Eisenhower Avenue, Alexandria, VA 22333-0001

SUBJECT: Transfer of An Americium-241 Source; Information Concerning

1. Reference license Number 20-01010-04.
2. In accordance with the license referenced above and conditions specified in 10 CFR 40.51 the source described below has been transferred to the University of Lowell under license Number 20-07446-01.

AM-241, 3.0 Ci, Model Number NER-476A, Sealed source in a modified LEA 68 capsule, Source Container NER 9000 N3, Serial Number A5855.

3. This source was packaged and shipped by Chem-Nuclear Systems Inc., on 3 February 1989.

4. Copies of shipping papers, leak tests and the amended University of Lowell, NRC material license are on file at this laboratory.

5. Please delete this source from License Number 20-01010-04.

6. Point of contact for this matter is Peter Cornetta (AV 955-5225) or (617) 923-5225.

*Edward S. Wright*  
EDWARD S. WRIGHT  
Director

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FEE EXEMPT

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RECEIVED-REGION I

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U. S. NUCLEAR REGULATORY COMMISSION  
MATERIALS LICENSE

6/2/77

Amendment No. 02

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 1, Parts 30, 31, 32, 33, 34, 35, 36, 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); and to import such byproduct and source material. 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		In accordance with application dated April 25, 1977,	
1. Department of the Army U.S. Army Materials & Mechanics Research Center		3. License number <b>SIM-244</b> is amended in its entirety to read as follows:	
2. Watertown, Massachusetts 02172		4. Expiration date <b>May 31, 1982</b>	
		5. Docket or Reference No. <b>70-263</b>	
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	
A. Uranium enriched in the U-235 isotope	A. Any	A. 8 grams	
B. Plutonium 239	B. Sealed sources	B. 2 sources of 80 grams each, 160 grams total ✓	
C. Plutonium 239	C. Sealed sources	C. 4 sources - 32 grams total	
D. Plutonium 239	D. Sealed sources	D. 4 sources - 0.16 micrograms total	
9. Authorized use			
A. To be used in neutron detectors.			
B. To be used for instrument calibration.			
C. To be used as neutron filters.			
D. To be used as alpha source standards.			

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MATERIALS LICENSE

Supplementary Sheet

License Number SNM-244

Docket or  
Reference No. 70-263

Amendment No. 02

CONDITIONS

10. Licensed material shall be used only at the licensee's address stated in Item 2 above.
11. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports to Workers; Inspections" and Part 20, "Standards for Protection Against Radiation."
12. Licensed material shall be used by, or under the supervision of, Homer F. Priest, Ph.D., John J. Antal, Ph.D., John J. O'Connor, Forest C. Burns, Grace L. Priest, Albert Warnas, Sidney Kivin, Alvan S. Campbell, Charles R. Dady, or Michael S. Blake.
13. This license authorizes the possession of sources on hand as of the date of this amendment. No source replacement shall be performed without specific approval by the Commission.
14. This license does not authorize the insertion of materials into any nuclear reactor.
15. A. Each encapsulated plutonium source designed for the purpose of emitting neutron or gamma radiation shall be tested for leakage at intervals not to exceed six (6) months. In the absence of a certificate from a transferor indicating that a test has been made within six (6) months prior to the transfer, a sealed source received from another person shall not be put into use until tested.  
  
B. The test shall be capable of detecting the presence of 0.005 microcuries of alpha contamination on the test sample. The test sample shall be taken from the source or from appropriate accessible surfaces of the device in which the sealed source is permanently or semipermanently mounted or stored. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.



MATERIALS LICENSE

Supplementary Sheet

License Number SNM-244

Docket or  
Reference No. 70-263

Amendment No. 02

15. continued

CONDITIONS

- C. If the test reveals the presence of 0.005 microcurie or more of removable alpha contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired by a person appropriately licensed to make such repairs or to be disposed of in accordance with the Commission regulations. Within five (5) days after determining that any source has leaked, the licensee shall file a report with the Division of Fuel Cycle and Material Safety, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, describing the source, the test results, the extent of contamination, the apparent or suspected cause of source failure, and the corrective action taken. A copy of the report shall be sent to the Director of the nearest NRC Regional Office of Inspection and Enforcement, listed in Appendix D of Title 10, Code of Federal Regulations, Part 20.
- D. The periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another person unless they have been leak tested within six (6) months prior to the date of use or transfer.
- E. The leak test interval for neutron filters may be extended when the filters are in use in the reactor provided they are tested when removed.
16. A. Each plutonium alpha source shall be tested for leakage at intervals not to exceed three (3) months. In the absence of a certificate from a transferor indicating that a test has been made within three (3) months prior to the transfer, a sealed source received from another person shall not be put into use until tested.

MATERIALS LICENSE

Supplementary Sheet

License Number SNM-244

Docket or  
Reference No. 70-263

Amendment No. 02

16. continued

CONDITIONS

- B. The test shall be capable of detecting the presence of 0.005 microcurie of alpha contamination on the test sample. The test sample shall be taken from the source or from appropriate accessible surfaces of the device in which the sealed source is permanently or semi-permanently mounted or stored. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.
- C. If the test reveals the presence of 0.005 microcurie or more of removable alpha contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired by a person appropriately licensed to make such repairs or to be disposed of in accordance with the Commission regulations. Within five (5) days after determining that any source has leaked, the licensee shall file a report with the Division of Fuel Cycle and Material Safety, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, describing the source, the test results, the extent of contamination, the apparent or suspected cause of source failure, and the corrective action taken. A copy of the report shall be sent to the Director of the nearest NRC Regional Office of Inspection and Enforcement, listed in Appendix D of Title 10, Code of Federal Regulations, Part 20.
- D. The periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another person unless they have been leak tested within three (3) months prior to the date of use or transfer.

U. S. NUCLEAR REGULATORY COMMISSION  
MATERIALS LICENSE  
Supplementary Sheet

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License Number SNM-244

Docket or  
Reference No. 70-263

Amendment No. 02

(continued)

CONDITIONS

17. Except for plutonium contained in a medical device designed for individual human application, no plutonium, regardless of form, shall be delivered to a carrier for shipment by air transport or transported in an aircraft by the licensee.
18. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated April 25, 1977.

Date

JUN 2 1977

For the U. S. Nuclear Regulatory Commission  
Original Signed By  
JOSEPH M. CROWN, JR.  
by *WV* Radioisotopes Licensing Branch

Division of Fuel Cycle and  
Material Safety  
Washington, D.C. 20555

*Brown / Smith*



MATERIALS LICENSE

Supplementary Sheet

License Number STM-244

Department of the Army  
U. S. Army Materials & Mechanics  
Research Center  
Watertown, Massachusetts 02172

Docket or  
Reference No. 070-00263  
Amendment No. 03

In accordance with letter dated December 31, 1980, License Number STM-244  
is amended as follows:

Conditions 12. and 18. are amended to read:

12. Licensed material shall be used by, or under the supervision of, individuals designated by the licensee's Radiation Control Committee, Gordon A. Bruggeman, Chairman.
18. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated April 25, 1977 and letter dated December 31, 1980. The Nuclear Regulatory Commission's regulations shall govern the licensee's statements in applications or letters, unless the statements are more restrictive than the regulations.

FEB 09 1981

For the U. S. Nuclear Regulatory Commission

PAUL R. GILBERT  
Material Licensing Branch

Date \_\_\_\_\_

Division of Fuel Cycle and  
Material Safety  
Washington, D.C. 20555

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