NRC Form 374
(5-84)

U.S. NUCLEAR REGULATORY COMMISSION

Amendment No. 03

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, 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.

Licensee	In accordance with letter dated August 30, 1984
1. University of Tulsa	3. License number 35-06776-06 is amended in its entirety to read as follows:
2. 600 S. College Tulsa, Oklahoma 74104	4. Expiration date July 31, 1990
	5. Docket or Reference No. 030-16075

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. Hydrogen-3	A. Any	A. 10 millicuries
B. Carbon-14	B. Any	B. 10 millicuries
C. Phosphorus-32	C. Any	C. 5 millicuries
D. Iodine-131	D. Any	D. 10 millicuries
E. Iodine-125	E. Any	E. 10 millicuries
F. Plutonium-239	F. Sealed neutron sources (NUMEC Model NUMEC-P)	F. 16 grams
G. Hydrogen-3	G. Sealed sources	G. 100 millicuries
H. Cesium-137	H. Sealed sources (Isotope Product Lab. Model B506)	H. 50 millicuries
I. Cobalt-60	I. Sealed sources (Isotope Product Lab. Model No. 31066-2)	I. 110 microcuries
J. Americium-241	J. Sealed neutron sources (Gammatron Model AN-HP)	J. Not to exceed 5 curies per source

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K.	Cesium-137	K.	Sealed sources (Texas Nuclear Model 57157C)	K.	Not to exceed 50 millicuries per source
L.	Cesium-137	L.	Sealed sources (AccuRay Model DH-5)	L.	Not to exceed 50 millicuries per source
M.	Strontium-90	M.	Sealed sources (AccuRay Model DH-3)	M.	Not to exceed 1 curie per source
N.	Americium-241	N.	Sealed sources (Isotope Products Model AN241)	N.	Not to exceed 50 millicuries per source
O.	Plutonium-238	O.	Sealed sources (Amersham Model PPC-X)	O.	60 millicuries

9. Authorized use:

A. through O. Research and development as defined in Section 30.4(q), 10 CFR Part 30 and academic instruction.

CONDITIONS

10. Licensed material shall be used only at the University of Tulsa, 600 S. College, Tulsa, Oklahoma.

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, William P. Moran, Ph.D., Kenneth A. Kuenhold, Ph.D. or Steffen H. Rogers, Ph.D. Licensed material contained in sealed sources listed in Items 6.F. through 6.O. may also be used by, or under the supervision of, Paul Ferguson, P.E.

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13. A. (1) Each sealed source containing licensed material, other than hydrogen-3, with a half-life greater than 30 days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed 6 months, except that each source designed for the purpose of emitting alpha particles shall be tested at intervals not to exceed 3 months. In the absence of a certificate from a transferor, indicating that a test has been made within 6 months prior to the transfer, a sealed source received from another person shall not be put into use until tested.

(2) Notwithstanding the periodic leak test required by this condition, any licensed sealed source is exempt from such leak tests when the source contains 100 microcuries or less of beta and/or gamma emitting material or 10 microcuries or less of alpha emitting material.

(3) Except for alpha sources, 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 6 months prior to the date of use or transfer.

B. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate. 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 contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within 5 days of the test with the U. S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Dr, Suite 1000, Arlington, Texas 76011, describing the equipment, the test results, and the corrective action taken.

D. The licensee is authorized to collect and analyze leak test samples in accordance with the procedures described in the licensee's application dated July 23, 1979. Alternatively, leak test samples may be collected and/or analyzed by other persons specifically authorized by the Commission or an Agreement State to perform such services.

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14. Sealed sources containing licensed material shall not be opened.

15. The licensee shall not use licensed material in or on human beings or in field applications where activity is released except as provided otherwise by specific condition of this license.

16. 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 July 23, 1979, and letters dated August 1, 1979, May 24, 1983, and August 30, 1984. 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.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Original Signed By
Jack E. Whitten

Date JUL 24 1984

By _____
Nuclear Materials Safety Section
Region IV
Arlington, Texas 76011

Official Record Copy

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