

MATERIALS LICENSE

Amendment No. 03

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 May 15, 1985	
1. University of Iowa Radiation Protection Office		3. License number SNM-204 is amended in its entirety to read as follows:	
2. 311 Grand Iowa City, IA 52242		4. Expiration date October 31, 1990	
		5. Docket or Reference No. 070-00212	
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. Plutonium-239	A. Sealed Pu-Be neutron source	A. 160 grams	
B. Any byproduct material	B. Activation products	B. See Item 9.B.	
C. Plutonium-239	C. Sealed alpha sources	C. 50 micrograms mounted as alpha sources	
9. Authorized Use			
A. To be in a U.S. Nuclear Corp. Model NR-2 neutron howitzer for laboratory experiments and student instruction.			
B. Possession incident to the performance of irradiation experiments utilizing the Pu-Be source. To be used for student instruction.			
C. For storage only.			

CONDITIONS

10. Licensed material shall be used only at facilities of the University of Iowa,
Iowa City, Iowa.
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, individuals
designated by the University of Iowa's Radiation Protection Committee.

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13. Sealed sources containing licensed material shall not be opened.
14. 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 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 semipermanently 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 Material Licensing Branch, 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 U. S. Nuclear Regulatory Commission, Region III, 799 Roosevelt Road, Glen Ellyn, Illinois 60137.
- 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.
15. 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 except in packages the design of which the NRC has specifically approved for transport of plutonium by air.
16. Licensed material shall not be used in or on human beings or in products distributed to the public.

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17. 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 February 25, 1980 and letter dated May 15, 1985. 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

Date OCT 28 1985

Original Signed
By Patricia J. Whiston
Materials Licensing Section, Region III

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