

MATERIALS LICENSE

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 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.

1. University of South Dakota Department of Microbiology	In accordance with application dated April 25, 1984 3. License number 40-02331-19 is amended in its entirety to read as follows:	
2. Vermillion, South Dakota 57069	4. Expiration date April 30, 1990	5. Docket or Reference No. 030-15186
6. Byproduct, source, and/or special nuclear material A. Any byproduct material with Atomic Numbers 3 through 83, inclusive B. Hydrogen-3 C. Carbon-14 D. Phosphorus-32 E. Sulfur-35 F. Iodine-125 G. Iodine-131	7. Chemical and/or physical form A. Any B. Any C. Any D. Any E. Any F. Any G. Any	8. Maximum amount that licensee may possess at any one time under this license A. Not to exceed 25 millicuries per radionuclide and 250 milli- curies total B. 500 millicuries C. 200 millicuries D. 200 millicuries E. 100 millicuries F. 150 millicuries G. 200 millicuries

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H. Californium-252

H. Electrolytic deposition
on a target disc obtained
from Oak Ridge National
Laboratory

H. 1 microgram

I. Plutonium

I. Encapsulated as Pu-Be
neutron sources

I. 32 grams

9. Authorized use

A. through I. Laboratory research, including animal studies; student training; and instrument calibration.

CONDITIONS

10. Licensed material shall be used only at The University of South Dakota, Vermillion, South Dakota.
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 and physical presence of, individuals designated by Paul F. Smith, Ph.D., Radiation Safety Officer.
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.

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13. (continued)

- (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. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically authorized by the Commission or an Agreement State to perform such services.

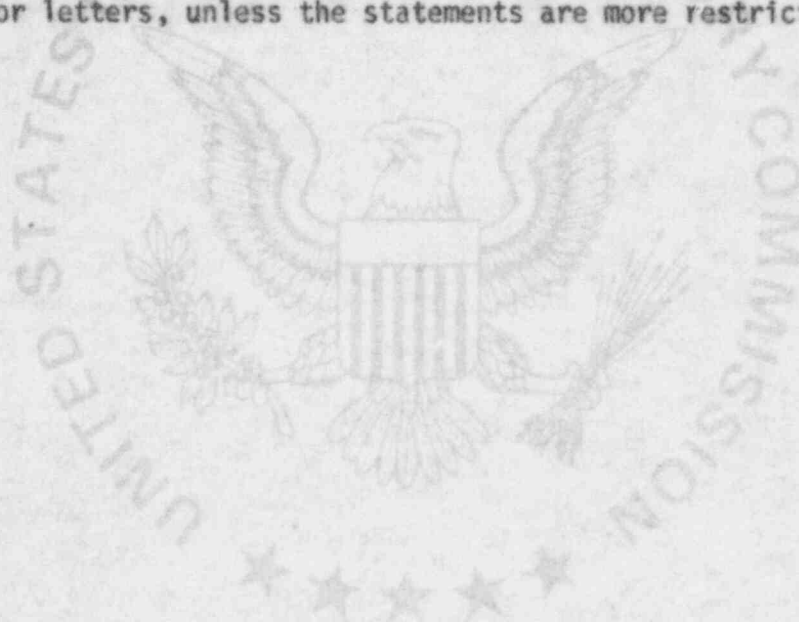
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14. Sealed sources containing licensed material shall not be opened.
15. The licensee shall not use licensed material in or on human beings or in field applications where activity is released except as provided otherwise by specific condition of this license.
16. Experimental animals administered licensed materials or their products shall not be used for human consumption.
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 April 25, 1984, and letter dated March 29, 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

Original Signed **RE**

C. L. Cain

Date APR 29 1985

By

C. L. Cain

Nuclear Materials Safety Section
Region IV
Arlington, Texas 76011

Official Record Copy

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