

## 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 June 18, 1985	
1. Department of the Interior Salt Lake City Research Center U.S. Bureau of Mines		3. License number 43-03238-01 is amended in its entirety to read as follows:	
2. 729 South Arapen Drive Salt Lake City, Utah 84108		4. Expiration date August 31, 1988	
		5. Docket or Reference No. 030-06459	
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. Any byproduct material with Atomic Numbers 1 - 83, inclusive	A. Any	A. Not to exceed 100 millicuries per radionuclide	
B. Americium-241	B. Sealed sources	B. Not to exceed 100 millicuries per source	
C. Promethium-147	C. Sealed sources	C. Not to exceed 1 curie per source	
D. Cesium-137	D. Sealed sources	D. Not to exceed 1 millicurie per source	
E. Nickel-63	E. Plated source contained in Hewlett-Packard Model 5840A detector cells	E. Not to exceed 15 millicuries per source	

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SUPPLEMENTARY SHEET**

License number

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030-06459

Amendment No. 21

9. Authorized use:

- A. through C. For use in research and development as defined in Section 30.4(q), 10 CFR Part 30.
- D. For use in calibrating survey instruments.
- E. For use in gas chromatographs for sample analysis.

CONDITIONS

- 10. Licensed material shall be used only at the Department of the Interior, Salt Lake City Research Center, U.S. Bureau of Mines, 729 South Arapen Drive, Salt Lake City, Utah.
- 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, H. Richard Beard or Lorin D. Redden.
- 13. Detector cells containing licensed material shall not be opened or the foil sources removed from the detector cell by the licensee.
- 14. In lieu of using the conventional radiation caution colors (magenta or purple on yellow background) as provided in Section 20.203(a)(1), Title 10, Code of Federal Regulations, Part 20, the licensee is hereby authorized to label detector cells and cell baths, containing licensed material and used in gas chromatography devices, with conspicuously etched or stamped radiation caution symbols without a color requirement.

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15. A. Each chromatograph detector containing nickel-63 shall be tested for leakage and/or contamination at intervals not to exceed 6 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 detector 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 radioactive material on the test sample. The test sample shall be taken from the surfaces of the device in which the foil is 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 foil 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 involved, 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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16. 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.



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16. (continued)

- D. The licensee is authorized to collect and analyze leak test samples in accordance with the procedures described in the licensee's letter dated February 7, 1983. 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.
17. 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.
18. Experimental animals administered licensed materials or their products shall not be used for human consumption.
19. The licensee shall conduct a physical inventory every 6 months to account for all sealed sources received and possessed under the license. The records of the inventories shall be maintained for 2 years from the date of the inventory for inspection by the Commission, and shall include the quantities and kinds of byproduct material, manufacturer's name and model numbers, location of sealed sources and the date of the inventory.
20. The licensee may transport licensed material or deliver licensed material to a carrier for transport in accordance with the provisions of Title 10, Code of Federal Regulations, Part 71, "Packaging and Transportation of Radioactive Material."
21. 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 letter dated February 7, 1983, with attached application; and letters dated May 3, 1983, June 30, 1983, and June 18, 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 By:  
Jack E. Whitten

Date

JUL 15 1985

By

Nuclear Materials Safety Section  
Region IV  
Arlington, Texas 76011

Official Record Copy

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