

## 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 September 12, 1983, 3. License number 37-07653-02 is amended in its entirety to read as follows:	
1. Aluminum Company of America Alcoa Technical Center	4. Expiration date February 28, 1989	
2. P. O. Box 2970 Alcoa Center, Pennsylvania 15069	5. Docket or Reference No. 030-06172	
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. Nickel 63	A. Foil contained in Hewlett-Packard Model 18713-60520 or Perkin- Elmer Model 330-0119 detector cells	A. Not to exceed 15 millicuries per foil
B. Hydrogen 3	B. Foil contained in AID Model 510-600 detector cells	B. Not to exceed 200 millicuries per foil
C. Krypton 85	C. Sealed source (FIFE Model KAC/4)	C. Not to exceed 100 millicuries per source
D. Cesium 137	D. Sealed source (Troxler Dwg. A-100280)	D. Not to exceed 10 millicuries per source
E. Americium 241	E. Sealed source (Troxler Dwg. A-100280)	E. Not to exceed 50 millicuries per source
F. Cesium 137	F. Sealed source (Campbell Pacific Nuclear Corporation Model 131)	F. Not to exceed 10 millicuries per source
G. Americium 241	G. Sealed source (Campbell Pacific Nuclear Corporation Model 131)	G. Not to exceed 50 millicuries per source
H. Cesium 137	H. Sealed source (Texas Nuclear Model 57157C)	H. Not to exceed 1 curie per source

## 9. Authorized use

- A. and B. For use in gas chromatographs for sample analysis.
- C. For use in FIFE Series 8500, Type NS601 source holders to measure thickness of materials.
- D. and E. For use in Troxler Model 2401 portable moisture/density gauges to measure properties of soil.
- F. and G. For use in Campbell Pacific Nuclear Corp. Model MC-1-122S portable moisture/density gauges to measure properties of soil.
- H. For use in Texas Nuclear Series SGD, Model 5203 source holders to measure density of material in pipelines.

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## CONDITIONS

10. A. Licensed material listed in Subitems 6.A., 6.B., 6.C., and 6.H., shall be used only at the licensee's facilities at Alcoa Technical Center, Alcoa Center, Pennsylvania and Alcoa Research Laboratory, New Kensington, Pennsylvania.
- B. Licensed material listed in Subitems 6.D., 6.E., 6.F., and 6.G., may be used at Alcoa Technical Center, Alcoa Center, Pennsylvania and Alcoa Research Laboratory, New Kensington, Pennsylvania and at temporary job sites of the licensee anywhere in the United States where the U. S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.
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. A. Licensed material listed in Subitems 6.A., 6.B., 6.C., and 6.H., shall be used by, or under the supervision of, Peter S. Bussey.
- B. Licensed material listed in Subitems 6.D., 6.E., 6.F., and 6.G., shall be used by, or under the supervision and in the physical presence of, Peter S. Bussey.
13. A. (1) Each sealed source containing licensed material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made within six 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) 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 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.

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- 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 I, 631 Park Avenue, King of Prussia, Pennsylvania 19406, 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.
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.
15. A. Each chromatograph detector containing Nickel 63 shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made within six 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 I, 631 Park Avenue, King of Prussia, Pennsylvania 19406, 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.
16. Sealed sources containing licensed material shall not be opened or removed from their respective source holders or from the portable moisture/density gauges by the licensee.

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17. Installation, relocation, removal from service, and initial radiation survey of devices containing licensed material shall be performed only by Peter S. Bussey in accordance with procedures outlined in letter dated September 12, 1983, by the device manufacturer, or by other persons specifically authorized by the Commission or an Agreement State to perform such services. Maintenance and repair of devices, and installation, replacement, and disposal of sealed sources containing licensed material used in devices shall be performed only by the device manufacturer or by other persons specifically authorized by the Commission or an Agreement State to perform such services.
18. The licensee shall conduct a physical inventory every six (6) months to account for all sealed sources and detector cells received and possessed under the license. The records of the inventories shall be maintained for two (2) years from the date of the inventory for inspection by the Commission, and shall include the quantities and kinds of licensed material, location of sealed sources and detector cells and the date of the inventory.
19. Detector cells containing licensed material shall not be opened or the foil sources removed from the detector cell by the licensee.
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 of Radioactive Material for Transport and Transportation of Radioactive Material Under Certain Conditions."
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 letters dated September 12, 1983, September 23, 1983, November 11, 1983, and January 17, 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

John E. Glenn, Ph.D.

By

Nuclear Materials and Safeguards Branch  
Region I  
King of Prussia, Pennsylvania 19406

Date

FEB 14 1984