

U. S. ATOMIC ENERGY COMMISSION  
BYPRODUCT MATERIAL LICENSE

License No. 37-07653-02

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Amendment No. 11

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, Licensing of Byproduct Material, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess, transfer and import byproduct material listed below; and to use such byproduct material for the purpose(s) and at the place(s) designated below. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect and to any conditions specified below.

<p>Licensee</p> <p>1. Name <b>Aluminum Company of America</b></p> <p>2. Address <b>Alcoa Research Laboratories Freeport Road New Kensington, Pa. 15068</b></p>		<p>In accordance with application dated <b>March 28, 1966</b>,</p> <p>3. License number <b>37-07653-02</b> is amended in its entirety to read as follows:</p> <p>4. Expiration date <b>April 30, 1968</b></p> <p>5. Reference No.</p>	
<p>6. Byproduct material (element and mass number)</p> <p><b>(See Page 2)</b></p>	<p>7. Chemical and/or physical form</p> <p><b>(See Page 2)</b></p>	<p>8. Maximum amount of radioactivity which licensee may possess at any one time</p> <p><b>(See Page 2)</b></p>	
<p>9. Authorized use</p> <p><b>(See Page 2)</b></p>			

CONDITIONS

10. Unless otherwise specified, the authorized place of use in the licensee's address stated in Item 2 above:
11. Sealed sources containing byproduct material and used in gauging devices may also be used at facilities of the licensee at the following locations:
  - A) 12th Street and 2nd Avenue, New Kensington, Pennsylvania.
  - B) 2210 Harvard Avenue, Cleveland, Ohio.
  - C) East Davenport, Iowa.
  - D) 2900 Missouri Avenue, East St. Louis, Missouri.
12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation."
13. Byproduct material shall be used by, or under the supervision of, individuals approved by the Isotope Committee, Dr. P. T. Stroup, Chairman.

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For the U. S. Atomic Energy Commission

MATERIAL LICENSE

Supplementary Sheet

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|---|---|--|
| <p>6. Byproduct material (element and mass number)</p> <p>A. Any byproduct material with Atomic Nos. between 3 &amp; 83, inclusive, except Strontium 90</p> <p>B. Strontium 90</p> <p>C. Hydrogen 3</p> <p>D. Strontium 90</p> <p>E. Cobalt 60</p> <p>F. Strontium 90</p> | <p>7. Chemical and/or physical form</p> <p>A. Any</p> <p>B. Any</p> <p>C. Any</p> <p>D. Sealed Source (Tracerlab Model S-2A)</p> <p>E. Sealed Source (Instruments, Inc., Model B-20-14)</p> <p>F. Sealed Source (U.S. Radium Model Model LAB 370-1)</p> | <p>8. Maximum amount of radioactivity which licensee may possess at any one time</p> <p>A. 2 curies of each byproduct material with Atomic Nos. between 3 &amp; 83, inclusive, except Strontium 90</p> <p>B. 50 millicuries</p> <p>C. 50 curies</p> <p>D. 13.5 millicuries</p> <p>E. 2 sources of 100 millicuries each</p> <p>F. 300 millicuries</p> |
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9. Authorized use

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| <p>A. through C.</p> <p>D.</p> <p>E.</p> <p>F.</p> | <p>Research and Development as defined in Section 30.4(q), Title 10, Code of Federal Regulations, Part 30.</p> <p>To be used in Tracerlab Model BG-1 gauge to measure thickness of aluminum sheet.</p> <p>To be used in Instruments, Inc., Model B-20-06 source holder to measure level of fluidized bed in process reactor vessel.</p> <p>To be used in an Ohmart Model LBG-2 source holder to measure the thickness of aluminum.</p> |
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CONDITIONS

14. Byproduct material shall not be used in or on human beings, in products distributed to the public or in field applications where such activity is released.
15. A.(1) Each sealed source acquired from another person and containing byproduct material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for contamination and/or leakage prior to use. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, the sealed source shall not be put into use until tested.

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15. A.(2) 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 six months prior to the date of use or transfer.
- B. Each sealed source fabricated by the licensee shall be tested for contamination and/or leakage immediately after fabrication. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall repair and/or decontaminate and retest the source. Sealed sources fabricated for distribution and containing byproduct material (with the exception of byproduct material with a half-life not exceeding thirty days, byproduct material in the form of gas, and Iridium 192) shall, in addition to an initial test upon fabrication, be stored for a period of seven days and retested prior to transfer to another person or as otherwise specifically provided for in this license.
- C. Each sealed source containing byproduct 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 except that each source designed for the purpose of emitting alpha particles shall be tested at intervals not to exceed three months.
- D. 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 or semipermanently 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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15. E. If the test required by Subsection A. or C. of this condition 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 Director, Division of Materials Licensing, U. S. Atomic Energy Commission, Washington, D. C., 20545, describing the equipment involved, the test results, and the corrective action taken. A copy of such report shall also be sent to the Director, Region I, Division of Compliance, USAEC, 376 Hudson Street, New York, New York, 10014.
16. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated March 28, 1966.

For the U. S. Atomic Energy Commission

Original Signed by  
Robert E. Brinkman

by Isotopes Branch

Division of Materials Licensing  
Washington, D. C. 20545

Date APR 25 1966

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*[Handwritten signature]*

*REB 4/25/66*