FORM AEC-374
(7-66)
10 CFR 30

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICE

License No. 37-07653-02

Amendment No. 28

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 32, 33, 34, and 35, 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.

Licensee	
1. Aluminum Company of America Alcoa Technical Center 2. P. O. Box 2970 Alco Technical Center, Pennsylvania 15069	In accordance with application dated March 13, 1973, 3. License number 37-07653-02 is amended in its entirety to read as follows: 4. Expiration date April 30, 1978 5. Reference No.

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time
A. Any byproduct material with Atomic Nos. between 3 & 83, except Strontium 90	A. Any	A. 2 curies of each byproduct material with Atomic Nos. between 3 & 83, inclusive, except Strontium 90
B. Strontium 90	B. Any	B. 50 millicuries
C. Hydrogen 3	C. Any	C. 50 curies
D. Cobalt 60	D. Sealed Source (Instruments, Inc. Model B-20-14)	D. 2 sources of 100 millicuries each
E. Strontium 90	E. Sealed Source (U.S. Radium Model LAB 370-1)	E. 300 millicuries
F. Krypton 85	F. Sealed Source (Tracerlab S-76A)	F. 500 millicuries
G. Cesium 137	G. Sealed Source (Amersham/Searle Model 850233, 3M Type 4P6M or 4P6E)	G. 2 curies
H. Krypton 85	H. Sealed Source (Tracerlab S-76A)	H. 500 millicuries

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6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radio activity which licensee may possess at any one time
I. Plutonium 238	I. Sealed source (Monsanto Research Corp. custom neutron source)	I. 263 milligrams

9. Authorized use

A. through C. Research and Development as defined in Section 30.4(q), Title 10, Code of Federal Regulations, Part 30.
D. To be used in Instruments, Inc., Model B-20-06 source holder to measure level of fluidized bed in process reactor vessel.
E. To be used in an Ohmart Model LBG-2 source holder to measure the thickness of aluminum.
F. To be used in Tracerlab Model HUB-76A devices to measure paint thickness.
G. To be used in a Nuclear Chicago Model 5120 liquid density gauge to measure gravity of slurry passing through a pipe line.
H. Storage in a Tracerlab HUB-76A source holder.
I. To be used in a Texas Nuclear custom-designed neutron activation analysis system.

CONDITIONS

10. Byproduct material shall be used only at Alcoa Technical Center, Alcoa Center, Pennsylvania, except that sealed sources used in analytical devices and gauges may also be used at Alcoa Company of America facilities in Cleveland, Ohio, Davenport, Iowa and New Kensington, Pennsylvania.

11. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 20, "Standards for Protection Against Radiation."

12. Byproduct material shall be used by, or under the supervision of, individuals designated by the licensee's Radiation Committee.

13. A(1) 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. 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.

13. continued

A(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.

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 Directorate of 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 Region I, Directorate of Regulatory Operations, USAEC, 970 Broad Street, Newark, New Jersey 07102.

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. 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 applications dated March 28, 1966, April 28, 1971, and March 13, 1973.

For the U. S. Atomic Energy Commission

Date APR 12 1973

by Materials Branch
Directorate of Licensing
Washington, D. C. 20545