

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENS

Supplementary Sheet

License Number 29-01022-0

Amendment No. 10

Department of the Army
U. S. Army Electronics Command
Fort Monmouth, New Jersey
07703

In accordance with application dated May 28, 1968, License Number 29-01022-06 is amended as follows:

To Add:

<p>6. Byproduct material (element and mass number)</p> <p>L. Americium 241 M. Americium 241</p>	<p>7. Chemical and/or physical form</p> <p>L. Any M. Sealed Sources</p>	<p>8. Maximum amount of radioactivity which licensee may possess at any one time</p> <p>L. 10 millicuries M. 5 curies</p>
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9. Authorized use

L. and M. Research and Development as defined in Section 30.4(q), Title 10, Code of Federal Regulations, Part 30, "Rules of General Applicability to Licensing of Byproduct Material."

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For the U. S. Atomic Energy Commission
Original Signed by
Nathan Bassin
by Isotopes Branch

Date NOV 19 1968

NB 11/19/68

Division of Materials Licensing
Washington, D. C. 20545

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BYPRODUCT MATERIAL LICENSE

Amendment No. 08

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. Department of the Army
U. S. Army Electronics
Command
2. Fort Monmouth, New Jersey
07703

In accordance with application dated
May 24, 1967,

3. License number 29-01022-06 is amended
in its entirety to read as follows:

4. Expiration date March 31, 1973

5. Reference No.

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioac- tivity which licensee may possess at any one time
A. Any byproduct material with Atomic Numbers 3-83, inclusive	A. Any	A. 1,000 millicuries of each
B. Cobalt 60	B. Sealed Sources	B. 440 curies total - No single source to exceed 200 curies
C. Cesium 137	C. Oak Ridge National Laboratory Sealed Source	C. 1 source of 125 curies
D. Polonium 210	D. Any	D. 10 millicuries
E. Polonium 210	E. Sealed Source	E. 10 curies
F. Hydrogen 3	F. Titanium Tritide Targets	F. 100 curies - No single target to exceed 10 curies
G. Cesium 137	G. Oak Ridge National Laboratory Sealed Sources	G. 660 curies contained in 3 sources of 220 curies each
H. Hydrogen 3	H. U. S. Radium Corporation Model LAB-706 Sealed Light Sources	H. 500 millicuries contained in 2 sources of 250 millicuries each
I. Hydrogen 3	I. Kaman Nuclear Model R Replenishing Cartridges	I. 280 curies

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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
J. Americium 241	J. Radiochemical Center, Amersham Vacuum Sublimed Sources	J. 100 microcuries total - No single source to exceed 20 microcuries
K. Strontium 90	K. Minnesota Mining and Manufacturing Company Model 3F1G Sealed Sources	K. 120 millicuries - No single source to exceed 30 millicuries

9. Authorized use

- A. through K. Research and Development as defined in Section 30.4(q), Title 10, Code of Federal Regulations, Part 30, "Rules of General Applicability to Licensing of Byproduct Material."

CONDITIONS

10. Byproduct material may only be used at the licensee's address stated in Item 2 above.
11. Byproduct materials specified below may also be used at the following locations:
- A. Cobalt 60 sealed sources containing a total of not more than 200 curies may be used at Oakhurst Tower Station, Ocean Township, New Jersey; Nevada Test Site; Pacific Proving Grounds; Lakehurst Naval Air Station, New Jersey; and Fort Huachuca, Arizona.
 - B. Cobalt 60 sealed sources containing a total of not more than 2 curies may be used at Fort Greeley, Alaska.
 - C. Strontium 90 sealed light sources containing a total of not more than 50 millicuries may be used at Oakhurst Tower Station, Ocean Township, New Jersey.
 - D. Hydrogen 3 sealed light sources containing a total of 500 millicuries in 2 sources of 250 millicuries each may be used at Fort Huachuca, Arizona, and Yuma Test Station, Yuma, Arizona.

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11. (Continued)

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- E. Hydrogen 3 titanium tritide target containing 10 curies and replenishing cartridge containing not more than 140 curies of hydrogen 3 may be used in a Kaman Nuclear Neutron Generator at Fort Hancock, New Jersey.
 - F. Strontium 90 sealed sources containing a total of not more than 120 millicuries may be used in a Model AN/UDM-2 Radiac Calibrator Set at the Lakehurst Naval Air Station, Lakehurst, New Jersey.
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 designated by the U. S. Army Electronics Command Isotope Committee.
14. 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.
- (2) Notwithstanding the periodic leak test required by the preceding paragraph, any licensed sealed source containing byproduct material is exempted from periodic leak tests provided the quantity of byproduct material contained in the source does not exceed ten times the quantity specified for the byproduct material in Column II, Schedule A, Section 31.100, 10 CFR 31.

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14. (Continued)

CONDITIONS

- A(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 six months prior to the date of use or transfer.
- B. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to use or transfer as a sealed source. If the inspection or test reveals any construction defects or 0.005 microcurie or greater of contamination, the source shall not be used or transferred as a sealed source until it has been repaired and decontaminated.
- 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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14. (Continued)

CONDITIONS

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- 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, 970 Broad Street, Newark, New Jersey, 07102.
15. Each sealed source of licensed material to be used outside of a shielded exposure device shall bear a durable, legible, and visible tag permanently attached to the source. The tag shall be at least one (1) inch square, shall bear the conventional radiation symbol prescribed in Section 20.203 (a), 10 CFR 20, and a minimum of the following instructions: DANGER - RADIOACTIVE MATERIAL - DO NOT HANDLE - NOTIFY MILITARY AUTHORITIES IF FOUND. Repair or replacement of tags shall be accomplished by persons specifically licensed by the Commission or an agreement State to perform this service.
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 May 24, 1967, as amended June 20, 1967, and January 22, 1968.

For the U. S. Atomic Energy Commission
Original Signed by
Nathan Bassin

by Isotopes BranchDivision of Materials Licensing
Washington, D. C. 20545

Date

MAR 27 1968

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