



DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF FOR LOGISTICS
WASHINGTON, D.C. 20310

LOG/PE-ISB

8 SEP 1969

U. S. Atomic Energy Commission
Division of Materials Licensing
Isotopes Branch
Washington, D. C. 20545

Gentlemen:

We recommend that the attached application for amendment of BML
No. 29-1022-06 issued to Fort Monmouth be approved.

An amendment is necessary to allow possession of a 50 curie sealed
source of Cesium 137 and to show Lieutenant Robert Lorenz as alter-
nate RPO, replacing Lieutenant James Ross.

Sincerely yours,

1 Incl
As stated (dupe)

Charles F. Haas
CHARLES F. HAAS

Chief, Industrial Support Branch
PEMA Execution Division

Information in this record was deleted
in accordance with the Freedom of Information
Act, exemptions 6
FOIA-2006-0237

HH/3

Portions Excl

12288

at 4 NB

Form AEC-313
(5-58)

ATOMIC ENERGY COMMISSION

APPLICATION FOR BYPRODUCT MATERIAL LICENSE

Form approved.
Budget Bureau No. 38-R027.4.

INSTRUCTIONS.—Complete Items 1 through 16 if this is an initial application. If application is for renewal of a license, complete only Items 1 through 7 and indicate new information or changes in the program as requested in Items 8 through 15. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail three copies to: U. S. Atomic Energy Commission, Washington 25, D. C. Attention: Isotopes Branch, Division of Licensing and Regulation. Upon approval of this application, the applicant will receive an AEC Byproduct Material License. An AEC Byproduct Material License is issued in accordance with the general requirements contained in Title 10, Code of Federal Regulations, Part 30 and the Licensee is subject to Title 10, Code of Federal Regulations, Part 20.

1. (a) NAME AND STREET ADDRESS OF APPLICANT. (Institution, firm, hospital, person, etc.)

**US Army Electronics Command
Fort Monmouth, New Jersey 07703**

(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a).)

NO CHANGE

2. DEPARTMENT TO USE BYPRODUCT MATERIAL

NO CHANGE

3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.)

29-01022-06

4. INDIVIDUAL USER(S). (Name and title of individual(s) who will use or directly supervise use of byproduct material. Give training and experience in Items 8 and 9.)

NO CHANGE

5. RADIATION PROTECTION OFFICER (Name of person designated as radiation protection officer if other than individual user. Attach resume of his training and experience as in Items 8 and 9.)

**Dr. W. J. Ramm
Lt. R. Lorenz (Alternate)**

6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.)

N. Cesium 137

(b) CHEMICAL AND/OR PHYSICAL FORM AND MAXIMUM NUMBER OF MILLICURIES OF EACH CHEMICAL AND/OR PHYSICAL FORM THAT YOU WILL POSSESS AT ANY ONE TIME. (If sealed source(s), also state name of manufacturer, model number, number of sources and maximum activity per source.)

N-The back scattering radiation device contains a 50 curie source of Cs 137. It is manufactured by Oak Ridge National Laboratories and contains a sealed source in a stainless steel sealed capsule. (See drawing Incl 2) The source capsule is enclosed in a 5" diameter cylindrical shield made of tungsten alloy. (See drawing Incl 3) The radiation level measured 1 ft. from the center of the source is 30 mr/hr in the most intense direction. Dose rate in the collimator in place and the window open. The source shield head is never removed and the source remains fixed. A solid plug in the source head is removed and replaced by a source shield insert to complete the collimation when in use. Radiation measurements were surveyed by Mr. Frank Dyer, Mr. L. Bates ONRL Analytical Chemistry Division, Oak Ridge National Laboratory, Tenn.

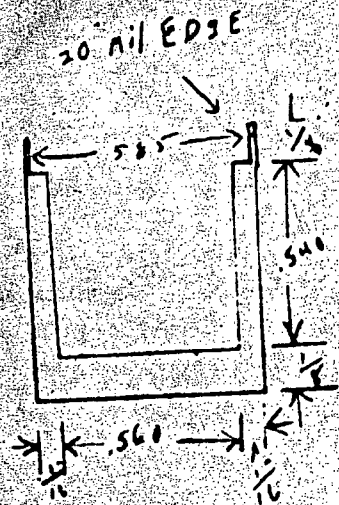
7. DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED. (If byproduct material is for "human use," supplement A (Form AEC-313a) must be completed in lieu of this item. If byproduct material is in the form of a sealed source, include the make and model number of the storage container and/or device in which the source will be stored and/or used.)

The equipment will be operated for the purpose of evaluation in determining its usefulness in meeting the requirements of a DOD radiographic task. It is a non-standard device manufactured by AEC by Oak Ridge National Laboratories, Tenn. The procedure to be followed in working with this device will be as follows: (a) The equipment will be set up for operation in Bldg. 401 (Radiation Shield), Isotopes Room as described in Inclosure 8 of the application of By Product Material License 29-01022-06, expiring 31 Mar 1973. Equipment will be set up inside the fenced interlocked area of the Isotope Room. Personnel will operate the equipment remotely from outside the fence. A survey of the room will be made to assure the safety of operating personnel. (b) Model wall constructed of cement, cement blocks, brick, wall boards, wood and cinderblock will be implanted with penetrameters. The walls will be surveyed with (Contd)

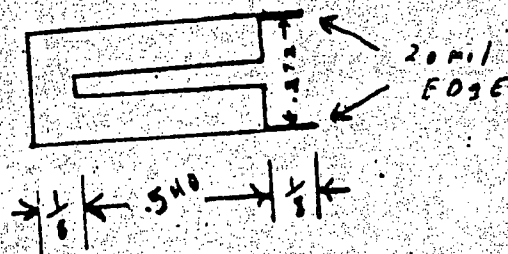
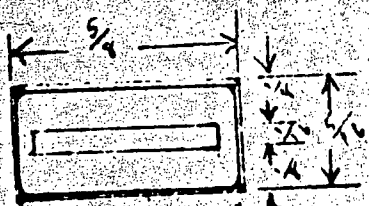
7. DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED (Contd)

the device which rides back and forth on a track, scanning and recording the results on a chart recorder to determine its radiographic effectiveness. (c) Operating personnel will wear chirpees, pocket dosimeters, and film badges. (d) All required monitoring instruments and safety rules will be adhered to as prescribed in ECOM Regulation 385-9 inclosed with application of License 29-01022-06. The tests will be supervised by the Supervisor of Radiation Facilities, who is appointed by the ECOM Isotopes and Radiation Committee. (e) The device containing the Cs 137 source will remain in Bldg. 401 until completion of the necessary tests, and will be stored in Bldg. T 383 when not in actual use. (f) Wipe tests will be conducted as described in incl 9 of application of Byproduct Material License 29-01022-06.

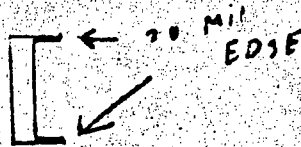
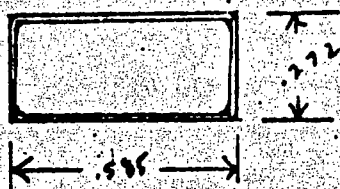
100 Ci CS SOURCE CAPSULE
Source Capsule For 50 Ci ¹³⁷Cs



MATERIAL - 316 SS



1/4" RADIUS
 IN CORNERS

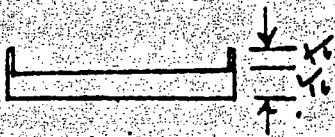


NO. REQ'D

1 EACH

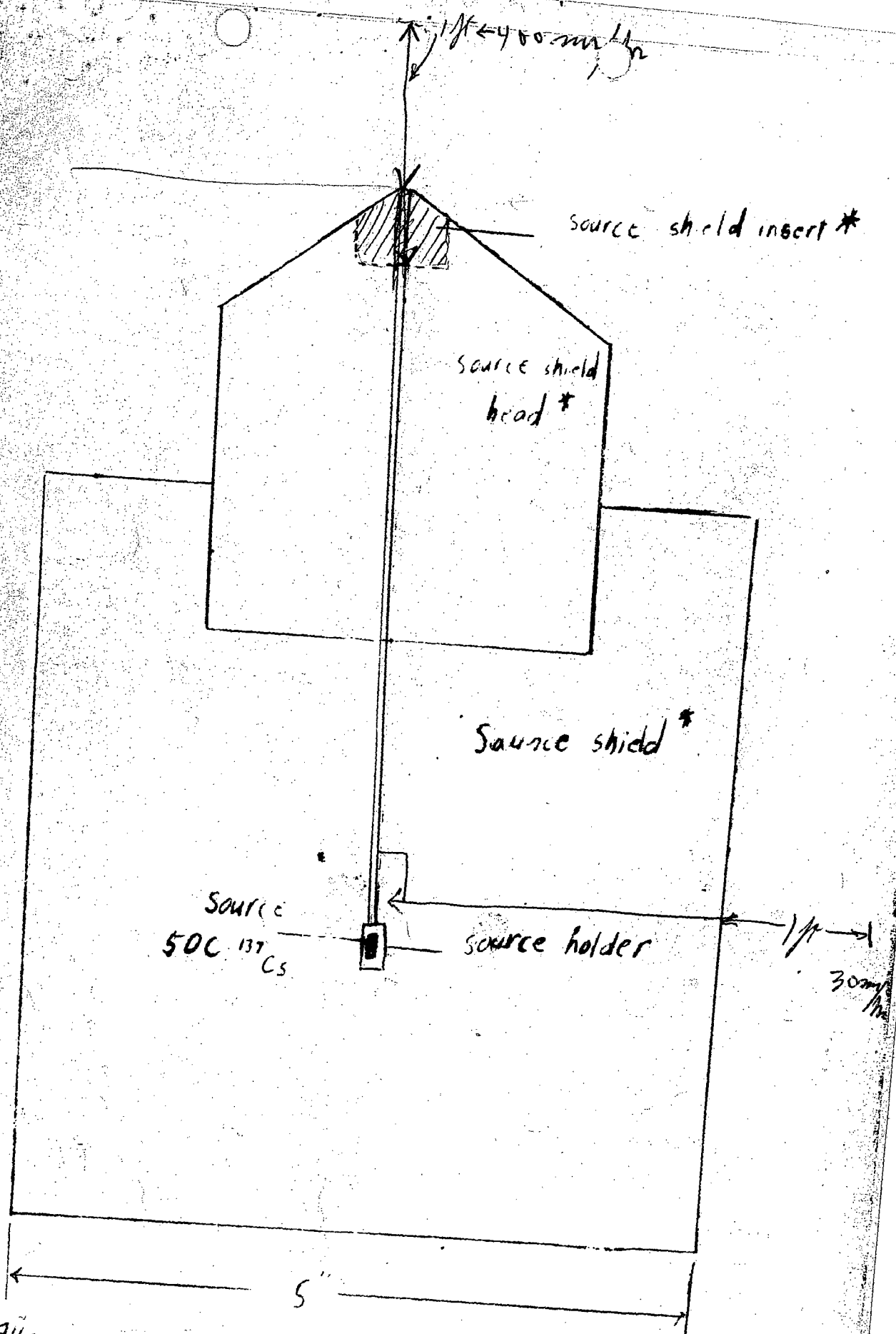
Lid

MATERIAL
 410 SS.



Incl. 2

12288



Tungsten Alloy
Incl 3

- (a) Robert W. Lorenz, 2LT Cml C
- (b) Position title - Radiation Protection Officer
- (c) Education background -

B.S. degree - Oklahoma Panhandle State College
Goodwell, Oklahoma [] Ex 4
Chemistry - Major
Math - Minor
1 course - Advance Inorganic Chem
(Including nuclear theory &
reactions)

U. S. Army Chemical Corps School
Fort McClellan
Alabama 1968

Dept of Health, Education & Welfare
National Center for Radiological Health
Rockville, Maryland
Basic Radiological Health - October 1968
Occupational Radiation Protection - October 1968

- (d) Vocational Experience with Radiation. -

U. S. Army Chemical School - 1968

Ass't Rad Protection Officer, Ft Monmouth
October - Present - Ft Monmouth

- (e) Formal Training in radiation -

1. Principles and Practices of Radiation Protection -

a. U. S. Army Chemical School
July - Sept 1968

b. National Center for Radiological Health
October - November 1968

2. Radioactivity measurement, standardization, and
monitoring techniques and instruments -

a. U. S. Army Chemical School
July - Sept 1968

b. National Center for Radiological Health
October - November 1968

End 4'

3. Mathematics and calculations basic to the use and measurement of radioactivity -

- a. Oklahoma Panhandle State College [] Ex 4
- b. U. S. Army Chemical School - July - Sept 1968
- c. National Center for Radiological Health
October - November 1968

4. Biological Effects of Radiation -

- a. U. S. Army Chemical School - July - Sept 1968
- b. National Center for Radiological Health
October - November 1968

(f) On-the-job training in radiation.

1. Principles and practices of radiation protection.

- a. U.S. Army Chemical School July - Sept 1968
- b. U. S. Army Electronics Command, Ft. Monmouth, N.J.

2. Radioactivity measurement, standardization, and monitoring techniques and instruments.

- a. U. S. Army Chemical School July - Sept 1968
- b. U. S. Army Electronics Command, Ft Monmouth, N.J.

3. Mathematics and calculations basic to the use and measurement of radioactivity.

- a. U. S. Army Chemical School July - Sept 1968
- b. U. S. Army Electronics Command, Ft Monmouth, N.J.

(g) Experience with the actual use of radioisotopes.

<u>Max. Activity</u>	<u>Location</u>	<u>Duration</u>	<u>Type of Use</u>
3,540 curies-Co ⁶⁰	USAECOM	Sept 68-Present	Exposure of Radiac Instruments
7.12 curies-Co ⁶⁰	USAECOM	Sept 68-Present	Calibration of Instruments
120 curies-Cs ¹³⁷	USAECOM	Sept 68-Present	Calibration of Instruments