34-653-2

Form AEC-313

ATOMIC ENERGY COMMISSION

APPLICATION FOR BYPRODUCT MATERIAL LICENSE

Form approved. Budget Bureau No. 38-R027.3.

DUPLICATE

INSTRUCTIONS: Complete Items 1 through 19 if this is a new application. If renewal is requested, complete only Items 1 through 11 provided that with respect to the other items there has been no change in the information previously submitted. Mail two copies to: U. S. Atomic Energy Commission, P. O. Box E, Oak Ridge, Tennessee, Attention: Isotopes Extension, Division of Civilian Application. Upon approval of this application, the applicant will receive an AEC Byproduct Material License. General requirements for issuance of an AEC Byproduct Material License are contained in Title 10, Code of Federal Regulations, Part 30.

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

Clevite Research Center
540 East 105th Street
Cleveland 8, Ohio

(b) ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED (If different from shipping address)

Div. of Clevite Corp

2. DEPARTMENT TO USE BYPRODUCT MATERIAL

Physics Division

3. INDIVIDUAL USER (Name and title of individual(s) who will use or directly supervise use of byproduct material)

Danforth R. Hale

4. RADIOLOGICAL SAFETY OFFICER (Name of person qualified in radiological safety, if other than individual user)

Dr. Richard L. Taylor, Physician for Clevite Research Center

5. PREVIOUS LICENSE OR AUTHORIZATION NUMBER (If this is an application for renewal of a license for byproduct material obtained under a prior license or authorization for radioisotope procurement)

7594 18 October 1950 1 curie (3 sources 500, 200, 300 mc) ORNL
131671 29 February 1952 3 curies ORNL

BYPRODUCT MATERIAL OR IRRADIATION SERVICE DESIRED

6. BYPRODUCT MATERIAL (Element and mass number)	7. CHEMICAL AND/OR PHYSICAL FORM (Or catalog number)	8. MAXIMUM AMOUNT OF RADIOACTIVITY IN MILLICURIES THAT YOU WILL POSSESS AT ANY ONE TIME
Cobalt 60	sealed source	4000

9. IF IRRADIATION SERVICE IS DESIRED, STATE PERTINENT DETAILS SUCH AS: CHEMICAL COMPOSITION AND WEIGHT IN GRAMS OF TARGET MATERIAL, RADIOACTIVITY, IRRADIATION TIME IN DAYS, AND NEUTRON FLUX

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STATEMENT OF USE

10. (a) DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED. (If material is for "human use" complete Supplement A in lieu of this item. If material is to be used in or manufactured as a "sealed source" complete Supplement B in addition to this item.)

Gamma-ray source for radiography through thick-walled steel vessels.

(b) DESCRIBE PROCEDURES WHICH WILL BE OBSERVED TO MINIMIZE HAZARD FROM HANDLING, STORAGE, AND DISPOSAL OF THE BYPRODUCT MATERIAL

By means of film badges it was shown that users and others nearby received less than 50 mr/week; if any change in mode of use is made, film badges would be ordered again. Source is stored and carried in 4 in. diam. lead holder.

CERTIFICATE

11. The applicant and any official executing this certificate on behalf of the applicant named in Item 1, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and do solemnly swear (or affirm) that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

State of Ohio
County of Cuyahoga
Subscribed and sworn to before me this 5 day of April 1957

Carolyn Ward
Notary Public
CAROLYN WARD, Notary Public
My Commission Expires May 19, 1958

Clevite Research Center
Applicant named in Item 1
By Eldred A. Gentry Jr.
Personnel Manager
Title of Certifying Official
April 5, 1957
Date

70-133

WARNING

18 U. S. C., Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

4957

(Continued on reverse side)

16—57264-6

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APPLICATION FOR BYPRODUCT MATERIAL LICENSE

INSTRUCTIONS: Complete Items 12 through 19 if this is a new application. This information may be omitted from subsequent applications provided there is no change in the information previously submitted, and reference is made in Item 5 to the application on which this information appears.

TRAINING AND EXPERIENCE WITH RADIOACTIVITY OF INDIVIDUAL USER NAMED IN ITEM 3

12. TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)	FORMAL COURSE (Circle answer)
1. Principles and practices of radiological health safety.			Yes No	Yes No
2. Radioactivity measurement standardization and monitoring techniques and instruments			Yes No	Yes No
3. Mathematics and calculations basic to the use and measurement of radioactivity.			Yes No	Yes No
4. Biological effects of radiation. . .			Yes No	Yes No
5. Actual use of radioisotopes in the types and quantities for which application is being made, or equivalent experience			Yes No	Yes No

13. ISOTOPE HANDLING EXPERIENCE

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE

14. If Radiological Safety Officer named in Item 4 is different from individual user named in Item 3, use supplementary sheet to provide equivalent information on "Training and Experience With Radioactivity of Radiological Safety Officer." Supplementary sheet is attached (*Circle answer*) Yes No

PHYSICAL FACILITIES, EQUIPMENT, AND RADIATION INSTRUMENTATION

15. RADIATION DETECTION INSTRUMENTS (*Use separate sheet if necessary*)

TYPE OF INSTRUMENTS (*Include make and model number of each*)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (*mr/hr*)	WINDOW THICKNESS (*mg/cm²*)	USE (*Monitoring, surveying, measuring*)

16. FILM BADGES, DOSIMETERS, AND OTHER PERSONNEL MONITORING DEVICES INCLUDING BIO-ASSAY PROCEDURES

17. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE (*For film badges specify method of calibration and processing, or name supplier*)

18. (a) DESCRIBE BRIEFLY REMOTE HANDLING EQUIPMENT, STORAGE CONTAINERS, SHIELDING, AND LABORATORY FACILITIES (*Working areas, fume hoods, etc.*)

(b) SKETCHES OF SUCH FACILITIES ARE ATTACHED (*Circle answer*) Yes No

19. DESCRIBE BRIEFLY RADIATION SURVEYING PROCEDURES AND METHODS OF DISPOSING OF RADIOACTIVE WASTES

U. S. GOVERNMENT PRINTING OFFICE 16—87264-3

WOM (4967)

Form AEC-313
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ATOMIC ENERGY COMMISSION

APPLICATION FOR BYPRODUCT MATERIAL LICENSE

Form approved.
Budget Bureau No. 38-R027.3.

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1. (a) NAME AND SHIPPING ADDRESS OF APPLICANT (*Institution, firm, hospital, person, etc.*)	(b) ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED (*If different from shipping address*)
Clevite Research Center 540 East 105th Street, Cleveland 8, Ohio	

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BYPRODUCT MATERIAL OR IRRADIATION SERVICE DESIRED

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9. IF IRRADIATION SERVICE IS DESIRED, STATE PERTINENT DETAILS SUCH AS: CHEMICAL COMPOSITION AND WEIGHT IN GRAMS OF TARGET MATERIAL, RADIOACTIVITY, IRRADIATION TIME IN DAYS, AND NEUTRON FLUX

STATEMENT OF USE

10. (a) DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED. (*If material is for "human use" complete Supplement A in lieu of this item. If material is to be used in or manufactured as a "sealed source" complete Supplement B in addition to this item.*)

(b) DESCRIBE PROCEDURES WHICH WILL BE OBSERVED TO MINIMIZE HAZARD FROM HANDLING, STORAGE, AND DISPOSAL OF THE BYPRODUCT MATERIAL

CERTIFICATE

11. The applicant and any official executing this certificate on behalf of the applicant named in Item 1, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and do solemnly swear (or affirm) that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

State of .....
County of .....
Subscribed and sworn to before me this .....
day of .....

.....
Notary Public

Clevite Research Center
Applicant named in Item 1

By E. A. Gentry
Personnel Manager
Title of Certifying Official

July 3, 1957
Date

WARNING

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3. Mathematics and calculations basic to the use and measurement of radioactivity.			Yes No	Yes No
4. Biological effects of radiation. . .			Yes No	Yes No
5. Actual use of radioisotopes in the types and quantities for which application is being made, or equivalent experience			Yes No	Yes No

13. ISOTOPE HANDLING EXPERIENCE

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE

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PHYSICAL FACILITIES, EQUIPMENT, AND RADIATION INSTRUMENTATION

15. RADIATION DETECTION INSTRUMENTS (Use separate sheet if necessary)

TYPE OF INSTRUMENTS (Include make and model number of each)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (mr/hr)	WINDOW THICKNESS (mg/cm²)	USE (Monitoring, surveying, measuring)
Beta Gamma Survey Meter Victoreen Model 263B No. 384	1	Beta Gamma	0.2 mr/hr to 20 mr/hr	30 mg sq.cm.	Health Monitoring
Geiger Counter Victoreen Thyac II Model 646 No. 163	1	"	0 mr/hr to 25 mr/hr	"	"

16. FILM BADGES, DOSIMETERS, AND OTHER PERSONNEL MONITORING DEVICES INCLUDING BIO-ASSAY PROCEDURES

Minometer, Victoreen No. 287-2274 with Pocket Chambers Nos. 7130, 7965, 7798, 7880, 8587 with a sensitivity range of OR to 0.2R.
Bi-weekly film badge service provided by R.S. Landauer, Jr. & Co., 24 Plaza, Park Forest, Illinois.

17. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE (For film badges specify method of calibration and processing, or name supplier)

The Beta-Gamma Survey Meter and Geiger Counter will be checked each 12 months for battery condition and calibration by Victoreen Instrument Co. The Minometer and Pocket Chambers will be checked each 12 months by Victoreen Instrument Co. The film badge supplier is R. S. Landauer, Jr. & Co.

18. (a) DESCRIBE BRIEFLY REMOTE HANDLING EQUIPMENT, STORAGE CONTAINERS, SHIELDING, AND LABORATORY FACILITIES (Working areas, fume hoods, etc.)

Drawings of the equipment and facilities are attached.

(b) SKETCHES OF SUCH FACILITIES ARE ATTACHED (Circle answer) (Yes) No

19. DESCRIBE BRIEFLY RADIATION SURVEYING PROCEDURES AND METHODS OF DISPOSING OF RADIOACTIVE WASTES

We have no radioactive wastes. The facilities and equipment are surveyed with a geiger counter to make certain they are within allowable limits.

U. S. GOVERNMENT PRINTING OFFICE 16—57264-5