

37-244-1 29-460-7

FCC-313 (9-55)	ATOMIC ENERGY COMMISSION APPLICATION FOR BYPRODUCT MATERIAL LICENSE	Form approved. Budget Bureau No. 28-R027.3.
DUPLICATED		
<p>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.</p>		
1. (a) NAME AND SHIPPING ADDRESS OF APPLICANT <small>(Institution, firm, hospital, person, etc.)</small> Research Division Curtiss-Wright Corp. Clifton, N. J.	(b) ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED <small>(If different from shipping address)</small> Bldg. 59 Wright Aero. Div. Curtiss-Wright Corp.-Wood-Ridge, N.J.	ATT: W.J. Wolkowitz
2. DEPARTMENT TO USE BYPRODUCT MATERIAL Chemistry		
3. INDIVIDUAL USER (Name and title of individual(s) who will use or directly supervise use of byproduct material) William Wolkowitz		
4. RADIOLOGICAL SAFETY OFFICER (Name of person qualified in radiological safety, if other than individual user) Carlyle J. Roberts		
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) 7938, 34811, 31590		
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 1000
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 Capsule, containing 1.42gUO ₂ (Natural). Desired irradiations 1, 10, 100 hr each at 10 ¹² n/cm ² flux (thermal)		
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.) The irradiation of the material is requested in order to study the effect of such irradiation.		
(b) DESCRIBE PROCEDURES WHICH WILL BE OBSERVED TO MINIMIZE HAZARD FROM HANDLING, STORAGE, AND DISPOSAL OF THE BYPRODUCT MATERIAL The material irradiated at Brookhaven Nat'l lab. will be kept at the reactor site until the radioactivity decreases to 1000 mc. After study under carefully controlled conditions, the material will be disposed of through the Radiological Service Co. of Jamaica, N. Y.		
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 <u>New Jersey</u> County of <u>Passaic</u> Subscribed and sworn to before me this <u>4th</u> day of <u>May</u> , 1956	Research Division, Curtiss-Wright Corp. Applicant named in Item 1 By <u>Herbert Campbell</u> General Manager, Research Division Title of Certifying Official Date <u>May 4, 1956</u>	
<u>Arthur J. Lewis</u> an Attorney-at-Law Notary Public State of <u>New Jersey</u>	Date <u>May 4, 1956</u>	
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.		

ATOMIC ENERGY COMMISSION
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.	Univ. Chicago O.R.N.L.	8 months 10 years	(Yes) No	Yes No
2. Radioactivity measurement standardization and monitoring techniques and instruments	CCCC K-25 Oak Ridge O.R.N.L.	1 year 10 years . .	(Yes) No	Yes No
3. Mathematics and calculations basic to the use and measurement of radioactivity.	CCCC K-25 Oak Ridge O.R.N.L.	1 year 10 years	(Yes) No	Yes No
4. Biological effects of radiation. . .	Univ. of Chicago	8 months	(Yes) No	Yes No
5. Actual use of radioisotopes in the types and quantities for which application is being made, or equivalent experience	O.R.N.L.	10 years	(Yes) No	Yes No

13. ISOTOPE HANDLING EXPERIENCE

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
Neptunium 237		O.R.N.L.	1 year	Anal. Chem.
Radium	10 mg	CCCC K-25	1 year	Survey
Technetium	99	O.R.N.L.	1 year	Anal. Chem.

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/cm ²)	USE (Monitoring, surveying, measuring)
Tracer-Lab. Meter SULB	1	B, X	25-2500	2-3	✓
" SU5A	1	A, B, X	.02-20		✓
" SULQA	1	B, X	0-50,000		✓
" SU3C	1	B, X			✓

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

30 Film Badges (Tracer Lab) Model 561 Dosimeter Charger
 11 Dosimeters Victoreen Type 541/A (Victoreen)
 1 Tracerlab Lab. Monitor Su-3C Victoreen Minometer MI
 25 Victoreen Pocket Chambers 362-3A

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

Calibration Standards Film badges checked by Tracer Lab.
 0.8 millicurie Co⁶⁰ source)
 500 millicurie Co⁶⁰ source) at 2 mo. intervals

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

Radi-arm (Atomic Center) 3 sections - 4 ft. 3 ft, 18 inches
 2 Pb pigs 6" lead 1 fume hood respirators
 2 Pb " 2" lead gloves 100 Pb bricks
 shoe covers concrete storage pit
 smocks

(b) SKETCHES OF SUCH FACILITIES ARE ATTACHED (Circle answer)

Yes ☒ No ☐

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

Lab monitor on continuously. All operations under scrutiny of radiological officer.
 Disposal by Radiological Service Co. Jamaica, N. Y.

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1. (a) NAME AND SHIPPING ADDRESS OF APPLICANT
(Institution, firm, hospital, person, etc.)Research Division
Curtiss Wright Corp.

Clifton, New Jersey Att: W.J. Wolkowitz Curtiss Wright Corp. Woodbridge, N. J.

(b) ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED
(If different from shipping address)Bldg. 59
Wright Aero Division

2. DEPARTMENT TO USE BYPRODUCT MATERIAL

Chemistry

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

William Wolkowitz

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

Carlyle J. Roberts

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)

29-460-1

BYPRODUCT MATERIAL OR IRRADIATION SERVICE DESIRED

6. BYPRODUCT MATERIAL (Element and mass number)

Mercury--203
Promethium--147

7. CHEMICAL AND/OR PHYSICAL FORM (Or catalog number)

Hg-203-P
Pm-147-P

8. MAXIMUM AMOUNT OF RADIOACTIVITY IN MILLICURIES THAT YOU WILL POSSESS AT ANY ONE TIME

3 mc

2 mc

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

none

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.)

Mercury-203, will be used for gamma spectrometer energy calibration. Promethium 147 is to be utilized in film thickness source studies.

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

Will handle materials in radioisotope hood using remote control and lead shielding where necessary. After use, the materials will be disposed of through the Radiological Service Co. of Jamaica, New York

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 New JerseyCounty of PassaicSubscribed and sworn to before me this 20thday of July, 1956Arthur M. Weis an Attorney-at-law
State of N.J.

Applicant named in Item 1

By William J. WolkowitzTitle of Certifying Official Sr. Research Chemist

Date

WARNING

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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.	Same as stated previously		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
Same as	stated previously			

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

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Same as previously stated					

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

Same as stated previously

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

Same as stated previously

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

Same as stated previously

(b) SKETCHES OF SUCH FACILITIES ARE ATTACHED (Circle answer)

Yes No

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

Same as stated previously

RETIREMENT RECORD

DATE: _____

FILE IN: _____
LICENSE NO: _____

LICENSEE: _____

INSTITUTION _____

ADDRESS _____

CITY _____

STATE _____

AUTHORIZATION FOLDERS RETIRED:

30600

17792

34811

38973

30969

38719

27891

35020

27424

34779

27423

34812

25229

33480

25079

32850

25012

31590

22281

31482

33004

31483

30789

30602

30601

29422

19879

19340

18814

18378