

37-2416-1

Form AEC-318  
(9-55)

ATOMIC ENERGY COMMISSION  
APPLICATION FOR BYPRODUCT MATERIAL LICENSE

Form approved.  
Budget Bureau No. 38-R0273.

**DUPLICATED**  
FOR BYPRODUCT MATERIAL LICENSE

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.) Research Division Curtiss-Wright Corporation Quehanna, Pennsylvania Attn: C. J. Roberts	(b) ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED (If different from shipping address) Research Division Curtiss-Wright Corporation Quehanna, Penna.
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2. DEPARTMENT TO USE BYPRODUCT MATERIAL  
Nuclear Power Department

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

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

BYPRODUCT MATERIAL OR IRRADIATION SERVICE DESIRED

6. BYPRODUCT MATERIAL (Element and mass number) see attached list.	7. CHEMICAL AND/OR PHYSICAL FORM (Or catalog number) see attached list	8. MAXIMUM AMOUNT OF RADIOACTIVITY IN MILLICURIES THAT YOU WILL POSSESS AT ANY ONE TIME 12 millicuries
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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.)

Study of ionization efficiencies of different gases and other research studies.

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

Will be kept in sealed containers in lead compartment when not in use. Will be handled in consultation with Health Physics Section. Tongs only will be used for handling.

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 \_\_\_\_\_

Curtiss Wright Corporation  
Applicant named in Item 1

By Carlisle J. Roberts  
Title of Certifying Official  
Radiological Safety Officer

March 19, 1957.  
Date

Notary Public \_\_\_\_\_

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.

4815

(Continued on reverse side)

16-57204-5

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. . . . .	Oak Ridge Inst. of Nuc. Studies	1 month	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
2. Radioactivity measurement standardization and monitoring techniques and instruments . . . . .	Curtiss-Wright Corporation	1953 - 1955	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
3. Mathematics and calculations basic to the use and measurement of radioactivity. . . . .	"	"	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
4. Biological effects of radiation. . . . .	Oak Ridge Inst. of Nuc. Studies	1 month	<input type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
5. Actual use of radioisotopes in the types and quantities for which application is being made, or equivalent experience . . . . .	Curtiss-Wright Corporation	1953 - 1955	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No

13. ISOTOPE HANDLING EXPERIENCE

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
Sr <sup>90</sup>	10 mc.	Curtiss-Wright Corp.	1953 - 1955	Beta gauge
Ir <sup>192</sup>	10 curies	"	"	Radiography

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  
Previously Submitted

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 <sup>2</sup> )	USE (Monitoring, surveying, measuring)
Jordan Survey Meter AGB-10K-Sk.	2	B Y	.01-1x10 <sup>7</sup>	50	Measurements
Thyac Survey Meter 389C	1	B Y	0-80,000 C.P.M.	30	Surveying

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

Film badges and dosimeters will be worn when using material.

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

Calibration of detection and measuring instruments once per week using external and internal calibration sources.

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

Fume hood available. Physics laboratory. Lead storage container. Sources sealed in polythene containers when not in use.

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

Yes  No

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

Surveying will be done by radiation surveyor with 10 years experience. Radiation intensities will be measured. Smears for contamination taken and personnel monitoring observed.

DUPLICATED  
FOR DIV. OF...

Item 6

- 2 - 3/4" disc - 0.1 mc. Sr<sup>90</sup>
- 2 - 3/4" disc - 1.0 mc. Sr<sup>90</sup>
- 1 - 3/4" disc - 10 mc. Sr<sup>90</sup>

Item 7

These sources were originally obtained from U. S. Radium Corporation, 535 Pearl Street New York 7, New York and are deposited on US&C Std. metal foil and coated.

Note:

These sources are now held at the University of Cincinnati, Cincinnati 21, Ohio. They were originally ordered for Prof. Joseph W. Sausville, Department of Chemistry.