

U.S. ATOMIC ENERGY COMMISSION APPLICATION 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 Applications. 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 150.

DUPLICATED

1. (a) NAME AND SHIPPING ADDRESS OF APPLICANT (Institution, firm, hospital, person, etc.) Curtiss-Wright Research Division Nuclear Power Department Quehanna, Penna. Attn. C. J. Roberts (b) ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED (If different from shipping address) 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) G. W. Smith 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) 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 millicuries 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 Uranium oxide matrix in refractory oxides - 10 gms. - } 100 mr/hr/sample @ 1 meter Miscellaneous refractories - 1000 gms. - Irradiation in 10^12 n/cm^2/sec. for 6 days

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 Isotope fume hoods. Shielded storage containers. Study will be undertaken under observation of the Health Physics staff. When completed those materials necessary will be disposed of through a recognized disposal agency such as radiological service cc.

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 \_\_\_\_\_ Applicant named in Item Curtiss-Wright Corporation County of \_\_\_\_\_ By Carlyle J. Roberts Radiological Safety Officer Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ Title of Certifying Official March 22, 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.

**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)	
			Yes	No	Yes	No
1. Principles and practices of radiological health safety. . . . .						
2. Radioactivity measurement standardization and monitoring techniques and instruments . . . . .						
3. Mathematics and calculations basic to the use and measurement of radioactivity. . . . .						
4. Biological effects of radiation. . . . .						
5. Actual use of radioisotopes in the types and quantities for which application is being made, or equivalent experience . . . . .						

**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/cm <sup>2</sup> )	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**

37-2416-1

Form AEC-318  
(9-55)

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 <i>(Institution, firm, hospital, person, etc.)</i> Research Division Curtiss-Wright Corporation Quehanna, Penna. Attn. C. J. Roberts	(b) ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED <i>(If different from shipping address)</i> Same
2. DEPARTMENT TO USE BYPRODUCT MATERIAL Nuclear Power Department	
3. INDIVIDUAL USER <i>(Name and title of individual(s) who will use or directly supervise use of byproduct material)</i> G. W. Smith	
4. RADIOLOGICAL SAFETY OFFICER <i>(Name of person qualified in radiological safety, if other than individual user)</i> C. J. Roberts	
5. PREVIOUS LICENSE OR AUTHORIZATION NUMBER <i>(If this is an application for renewal of a license for byproduct material obtained under a prior license or authorization for radioisotope procurement)</i> 29-460	

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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 Commercial Titanium - 30 gms. - 30 m.r/hr/ @ 1 meter. To be irradiated in a flux of $10^{12}$ n/cm <sup>2</sup> /sec for 6 days.		

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.)*

For activation analysis and monitoring of induced radioactivities.

(b) DESCRIBE PROCEDURES WHICH WILL BE OBSERVED TO MINIMIZE HAZARD FROM HANDLING, STORAGE, AND DISPOSAL OF THE BYPRODUCT MATERIAL  
Isotope fume hoods. Shielded storage container. Study will be undertaken under observation of the Health Physics staff. If necessary disposal will be through a recognized disposal agency.

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

Curtiss-Wright Corporation  
Applicant named in Item 1  
By Carlyle J. Roberts  
Radiological Safety Officer  
Title of Certifying Official  
March 22, 1957  
Date

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