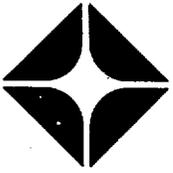


Atlantic Richfield Company

Products Division
Harvey Technical Center
400 East Sibley Boulevard
Harvey, Illinois 60426
Telephone 312 468 9300

Research & Development



September 14, 1972

U.S. Atomic Energy Commission
Washington, D. C. 20545

Attention: Isotopes Branch,
Division of Materials Licensing

Gentlemen:

Attached are two copies of completed form
AEC-313 for Byproduct Material License for use
of Americium 241.

Yours very truly,

ATLANTIC RICHFIELD COMPANY

A. I. Snow

A. I. Snow, Chairman
Radioisotope Committee

AIS:msk
Attachment (2)

SENT BY AIR MAIL

82363

ATM

UNITED STATES ATOMIC ENERGY COMMISSION
APPLICATION FOR BYPRODUCT MATERIAL LICENSE

INSTRUCTIONS.— Complete Items 1 through 16 if this is an initial application or an application for renewal of a license. Information contained in previous applications filed with the Commission with respect to Items 8 through 15 may be incorporated by reference provided references are clear and specific. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail two copies to: U.S. Atomic Energy Commission, Washington, D.C., 20545, Attention: Isotopes Branch, Division of Materials Licensing. 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. Include ZIP Code.) Atlantic Richfield Company 400 East Sibley Blvd. Harvey, Illinois 60426	(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED (If different from 1 (a). Include ZIP Code.) Same as (a).
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2. DEPARTMENT TO USE BYPRODUCT MATERIAL Physical Research	3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.) None
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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.) C. J. Bragg, Sr. Research Engineer L. A. Baillie, Sr. Chemist	5. RADIATION PROTECTION OFFICER (Name of person designated as radiation protection officer if other than individual user. Attach resums of his training and experience as in Items 8 and 9.) L. A. Baillie
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6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.) Americium 241	(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 sources), also state name of manufacturer, model number, number of sources and maximum activity per source.) A sealed source containing 600 microcuries of Americium 241 as a half square inch active area of Nuclear Radiation Development Incorporated Americium Foil, Catalog No. A001-03000.
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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.) Ion source in Mine Safety Appliances Billion-Aire analytical instrument.

30553

TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEM 4 (Use supplemental sheets if necessary)

8. TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)		FORMAL COURSE (Circle answer)	
			Yes	No	Yes	No
a. Principles and practices of radiation protection	See attached sheet.		Yes	No	Yes	No
b. Radioactivity measurement standardization and monitoring techniques and instruments			Yes	No	Yes	No
c. Mathematics and calculations basic to the use and measurement of radioactivity			Yes	No	Yes	No
d. Biological effects of radiation			Yes	No	Yes	No

9 EXPERIENCE WITH RADIATION. (Actual use of radioisotopes or equivalent experience.)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
See attached sheet.				

10 RADIATION DETECTION INSTRUMENTS. (Use supplemental sheets 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)
Packard Tricarb 3214 Liquid Scintillation Column	1	Alpha & Beta			Measuring

11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE.

At least every 6 months and more frequently when used.

12. FILM BADGES, DOSIMETERS, AND BIO-ASSAY PROCEDURES USED. (For film badges, specify method of calibrating and processing, or name of supplier.)

Film Badges - R. S. Landauer

INFORMATION TO BE SUBMITTED ON ADDITIONAL SHEETS IN DUPLICATE

13. FACILITIES AND EQUIPMENT. Describe laboratory facilities and remote handling equipment, storage containers, shielding, fume hoods, etc. Explanatory sketch of facility is attached. (Circle answer) Yes No See letter of May 16, 1957.

14. RADIATION PROTECTION PROGRAM. Describe the radiation protection program including control measures. If application covers sealed sources, submit leak testing procedures where applicable, name, training, and experience of person to perform leak tests, and arrangements for performing initial radiation survey, servicing, maintenance and repair of the source. See letters from A.I. Snow of 8-5-59, 7-5-60, 9-8-60 and 11-25-69.

15. WASTE DISPOSAL. If a commercial waste disposal service is employed, specify name of company. Otherwise, submit detailed description of methods which will be used for disposing of radioactive wastes and estimates of the type and amount of activity involved. Atomic Disposal Co., Inc.

CERTIFICATE (This item must be completed by applicant)

16. 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 THAT ALL INFORMATION CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO, IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF.

ATLANTIC RICHFIELD COMPANY

Applicant named in item 1

Date September 14, 1972

By: A. I. Snow

Chairman, Radioisotope Committee

Title of certifying official

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.

8. C. J. Bragg

a. University of Illinois	1 year	no	yes
b. Ditto	"	"	"
c. Ditto	"	"	"
d. None			

Lloyd A. Baillie

a. Argonne Cancer Research Hospital Sinclair Research, Inc. & Atlantic Richfield Company	1 year	yes	no
b. Ditto	16 years	yes	no
c. South Dakota State College DePaul University Sinclair Research, Inc. & Atlantic Richfield Company	16 years 5 years	" no	" yes
d. Argonne Cancer Research Hospital Sinclair Research, Inc. & Atlantic Richfield Company	16 years 1 year 16 years	yes " "	no " "

9. C. J. Bragg

None

Lloyd A. Baillie

Fe-59	100 mc	Sinclair Research, Inc., 16 years & Atlantic Richfield Co.	Tracer & Wear Tests
Sc-46	100 mc	Ditto	16 years Tracer Tests Refinery
Fe-55	5 curies	Ditto	16 years Wear Tests
Au-198	1 curie	Ditto	16 years Tracer Tests
Cs-137	0.5 curies	Ditto	16 years External Sour
N-63	100 millicuries	Ditto	16 years Tracer
H-3	100 curies	Ditto	16 years Tracer Tests
C-14	40 millicuries	Ditto	16 years Tracer Tests
CO-60	17000 curies	Ditto	16 years Radiation Sour
I-131	50 curies	Argonne Cancer Research Hospital	1 year Medical
P-32	5 curies	Ditto	1 year Medical