



**SINCLAIR RESEARCH, INC.**  
400 EAST SIBLEY BOULEVARD  
HARVEY, ILLINOIS 60426

June 18, 1965

U. S. Atomic Energy Commission  
Washington 25, D. C. 20545

Attention: Isotopes Branch  
Division of Licensing and Regulation

Gentlemen:

Attached are two completed copies of Form AEC-313 in renewal of Byproduct Material License 12-140-4 (G65) and all amendments to date including Amendment No. 9. Aside from the amendments, there are no major changes in effect since our last application.

Yours very truly,

SINCLAIR RESEARCH, INC.

A. I. Snow, Chairman  
Radioisotope Committee

AIS:ec  
Attachment

U.S. ATOMIC ENERGY COMM.  
REGULATORY  
MAIL & RECEIPTS SECTION

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A140

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.)  <b>Sinclair Research, Inc. 400 East Sibley Boulevard Harvey, Illinois 61420</b>	(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a). Include ZIP Code.)  <b>Same as shipping address except for field uses</b>
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2. DEPARTMENT TO USE BYPRODUCT MATERIAL  <b>Any</b>	3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.)  <b>Renewal 12-140-4 (G65) and all amendments</b>
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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.) <b>As approved by the Radioisotope Committee of applicant institution. For Isotope Committee see letters of May 16, 1957; June 20, 1961; and June 14, 1963.</b>	5. RADIATION PROTECTION OFFICER (Name of person designated as radiation protection officer if other than individual user. Attach resume of his training and experience as in Items 8 and 9.)  <b>Dr. Adolph I. Snow</b>
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6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.)  <b>A. Hydrogen 3 B. Any byproduct material between atomic Nos. 3-83 inclusive.</b>	(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 source(s), also state name of manufacturer, model number, number of sources and maximum activity per source.)  <b>A. Any chemical or physical form. Possession limit 100 curies. B. Any chemical or physical form. Possession limit 1000 millicuries of any byproduct material between atomic Nos. 3-83, except cobalt 60 - 25 curies iridium 192 - 25 curies strontium 90 - 100 millicuries krypton 85 - 20 curies</b>
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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.)  
  
**A. and B. Research and Development as defined in Section 30.4(k) of Title 10, Code of Federal Regulations, Part 30 Licensing of Byproduct Material.**

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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)
a. Principles and practices of radiation protection	See letters from A. I. Snow of May 16, 1957; June 20, 1961, and June 14, 1963.		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 letters from A. I. Snow of May 16, 1957, June 20, 1961 and June 14, 1963.		

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 <sup>2</sup> )	USE (Monitoring, surveying, measuring)
Packard Tri-Carb Liquid Scintillation Spectrometer, Automatic Control Model 524	1	beta			measuring
Also, see letters of May 16, 1957 and June 22, 1959.					

11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE.  
See letter of May 16, 1957.

12. FILM BADGES, DOSIMETERS, AND BIO-ASSAY PROCEDURES USED. (For film badges, specify method of calibrating and processing, or name of supplier.)  
Bioassays for tritium by New England Nuclear.  
Film badges supplied by: R. S. Landauer, Jr. & Co.

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 May 16, 1957, Sept. 16, 1959, Aug. 5, 1959, July 5, 1960 and April 17, 1964.

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. California Nuclear, Inc., see also letter of Sept. 8, 1960

CERTIFICATE (This item must be completed by applicant) letter of Sept. 8, 1960

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.

Date June 18, 1965

RECEIVED JUN 22 1965  
U.S. ATOMIC ENERGY COMMISSION  
REGULATORY DIVISION  
MAIL & RECORDS SECTION

Sinclair Research, Inc.  
Applicant named in item 1  
By: E. J. Martin  
E. J. Martin  
Vice President and General Manager  
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.