

**SINCLAIR RESEARCH LABORATORIES, INC.**

400 EAST SIBLEY BOULEVARD  
HARVEY, ILLINOIS

June 22, 1959

Isotopes Branch  
Division of Licensing and Regulation  
United States Atomic Energy Commission  
Washington 25, D. C.

Dear Sir:

We are hereby applying for a renewal of Byproduct Material License Number 12-140-4 which expires on July 31, 1959. Attached are three completed copies of Form AEC-313.

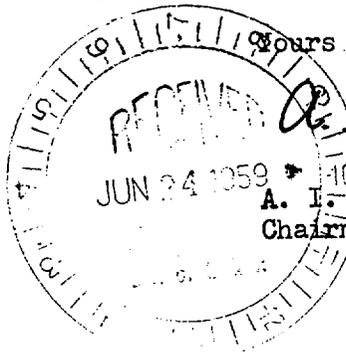
In view of the expansion of our program and the current availability of tritium we would like to increase the procurement limit for tritium to 500 curies and retain the possession limit at 100 curies.

We desire no other changes in the license at this time. We trust that the information contained on the Form AEC-313 is complete but will be happy to answer any questions which may arise.

Yours very truly,

*A. I. Snow*  
A. I. Snow

Chairman, Radioisotope Committee



AIS:ec  
Attachment

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## APPLICATION FOR BYPRODUCT MATERIAL LICENSE

INSTRUCTIONS.—Complete Items 1 through 16 if this is an initial application. If application is for renewal of a license, complete only Items 1 through 7 and indicate new information or changes in the program as requested in Items 8 through 15. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail three copies to: U. S. Atomic Energy Commission, Washington 25, D. C. Attention: Isotopes Branch, Division of Licensing and Regulation. 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.

|   |   |
|---|---|
| <p>1. (a) NAME AND STREET ADDRESS OF APPLICANT. (Institution, firm, hospital, person, etc.)</p> <p>Sinclair Research Laboratories, Inc.<br/>400 East Sibley Blvd.<br/>Harvey, Illinois</p>  | <p>(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a).)</p> <p>Same as shipping address except for field uses.</p> <p><i>amend #1 to 12-140-4</i></p>                                  |
| <p>2. DEPARTMENT TO USE BYPRODUCT MATERIAL</p> <p>Any</p>   | <p>3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.)</p> <p>12-140-4 Renewal</p>  |
| <p>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.)</p> <p>As approved by the radioisotope committee of applicant institution.</p> | <p>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.)</p> <p>Dr. Adolph I. Snow</p> |

|   |   |
|---|---|
| <p>6. (a) BYPRODUCT MATERIAL</p> <p>A. Hydrogen 3.</p> <p>B. Any Byproduct material between atomic Nos. 3-83 inclusive.</p> | <p>CHEMICAL AND/OR PHYSICAL FORM AND NAME OF MANUFACTURER</p> <p>A. Any chemical or physical form. Possession limit 100 curies. Desire to change procurement limit to 500 curies.</p> <p>B. Any chemical or physical form. Possession limit 1000 millicuries of any by-product material between atomic Nos. 3-83 except</p> <p>Cobalt-60 - 25 curies<br/>Iridium -192- 25 curies<br/>Strontium-90-100 millicuries</p> <p>Total 130 curies</p> |
|---|---|

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.)

Research and development as defined in Section 11 (q) of the Atomic Energy Act of 1954.

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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) |    |
|--|---------------|----------------------|----------------------------|----|-------------------------------|----|
|  |               |                      | Yes                        | No | Yes                           | No |
| a. Principles and practices of radiation protection                                    |               |                      | 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 |
|---------|----------------|-----------------------------|------------------------|-------------|
|         |                |                             |                        |             |

10. RADIATION DETECTION INSTRUMENTS. (Use supplemental sheets if necessary.) Previously described instruments plus

| 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) |
|--|------------------|--------------------|--|--|--|
| Nuclear-Chicago Dynacon Electrometer Model 6000 and accessories              | 1                | beta               | less than 5x10 <sup>-11</sup> curies to 10 <sup>-3</sup> " | windowless                             | Measuring gas phase samples            |
| Nuclear-Chicago Survey Meter, Model 2612                                     | 1                | alpha, beta, gamma | 0.2, 2 and 20 mr/hr  | 1.4                                    | surveying                              |
| Nuclear-Chicago Radiation Analyzer Model 1010 for use with Model 192 crystal | 1                | gamma              |  |  | gamma ray spectrometry                 |

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

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

Tritium bio-assays in urine samples.

INFORMATION TO BE SUBMITTED ON ADDITIONAL SHEETS

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

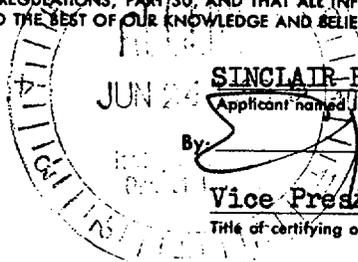
14. RADIATION PROTECTION PROGRAM. Describe the radiation protection program including control measures. If application covers sealed sources, submit leak testing procedures where applicable, name, training, and experience of person to perform leak tests, and arrangements for performing initial radiation survey, servicing, maintenance and repair of the source.

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. Argonne or Oak Ridge National Labs

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.

Date June 22, 1959



SINCLAIR RESEARCH LABORATORIES, INC.

Applicant named in Item 1

By

*[Signature]*

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.