TWX 510-655-2634

USR UNITED STATES RADIUM CORPORATION
4150 OLD BERWICK ROAD / BLOOMSBURG, PA. 17815 / (717) 784-3510

April 24, 1969

U. S. Atomic Energy Commission
Division of Materials Licensing
Washington, D. C. 20545

Attn: Mr. Robert E. Brinkman, Isotopes Branch

Dear Mr. Brinkman:

At the Bloomsburg, Pa., location of U. S. Radium Corp., we are in the process of eliminating all radioisotopes except Hydrogen-3, Promethium-147 and Carbon-14. After extensive study of the existing and future activities with radioisotopes, it is my opinion that the following licensing is appropriate:

1) License 37-00030-02, expiration date May 31, 1969, be renewed until September 30, 1969, to allow for completion of decontamination and disposal in areas which were used for processing under this license.

2) A new license to replace 37-00030-02 be issued. The new license would reflect licensing for activities, other than tritiated paint application, we wish to continue at this location. The application for this license was submitted on Form 313 dated March 13, 1969. New Form 313's are submitted here to replace those submitted March 13, 1969. The replacement 313 includes application for Carbon-14, an isotope used in the Isolite photometer we distribute to customers for the purpose of measuring light output of self-luminous signs.

   It is not planned to manufacture the Isolite photometer here. We are making arrangements to buy them from a vendor so we would need licensing only for calibration and distribution of these units. Existing license GL-253 licenses distribution of the Isolite photometers.

3) License 37-00030-07, renewal application dated March 28, 1969, would license tritiated paint activities.

4) Existing licenses GL-122 and GL-237 would complete the licensing required to conduct the activities which are planned for the future at this location.

No work with Promethium will be performed until a suitable procedure for determination of Promethium-147 in urine has been developed. This will be developed in a few weeks. We are awaiting the arrival of the procedure recommended by Mr. Warren Sheehan, Bioassay Supervisor, Mound Laboratory, Miamisburg, Ohio. As soon as a copy of the procedure has been received, it will be modified as necessary to be applicable to the needs of this location.

Please note that under Bioassay Program, Item 2.3.0 should read Prior to work with Promethium-147, a suitable urine Promethium assay program will be adopted. In applications sent to you previously, a feces analysis was indicated. While a feces analysis may be advantageous in many circumstances, it has been decided the routine urine analysis for Promethium would provide better radiation protection under the conditions that would exist here.

New radiation zone definitions have been developed. Extra copies of the definitions have been included here for replacement into the two license applications sent to your offices earlier.

Administration procedures have been added to the Health Physics program. Extra copies of these procedures have also been included here for insertion into the two previous applications.

The total plant site will be used as a restricted area for purposes of calculating atmospheric dispersion.

Compliance with 10 CFR 206 will be accomplished by having a copy of the required material available at the receptionist's desk at the main plant entrance. All points of public entry to the plant will have posted notices explaining that the required material is available from the receptionist.

Sincerely yours,

UNITED STATES RADIUM CORPORATION

O. L. Olson
Director
Nuclear Division

OLO
jrn

Encs.

Registered Mail....ret.rec.req.

Form AEC-313
8-64
10 CFR 30

UNITED STATES ATOMIC ENERGY COMMISSION

APPLICATION FOR BYPRODUCT MATERIAL LICENSE

Form approved.
Budget Bureau No. 38-R027

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 Commisson 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.)*

United States Radium Corp.
4150 Old Berwick Rd.
Bloomsburg, Pa. 17815

(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. *(If different from 1 (a). Include ZIP Code.)*

2. DEPARTMENT TO USE BYPRODUCT MATERIAL

Nuclear Division

3. PREVIOUS LICENSE NUMBER(S). *(If this is an application for renewal of a license, please indicate and give number.)*

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.)*

D.B.Cowan Mgr. Gas filling dept.
I.W.Allam Mgr. Foils preparation dept.
G.E.Widger Mgr. Isolite assembly dept.

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.)*

J. D. McGraw

6. (a) BYPRODUCT MATERIAL. *(Elements and mass number of each.)*	(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.)*	
Hydrogen-3	Any chemical form	100,000 curies
Promethium-147	Any chemical form	100 curies
Carbon-14	Any chemical form	50 millicuries

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.)*

Processing for distribution to authorized recipients.
Research and development as defined in 10 CFR 30.4(q).

03393

Certified No. 314308

(Continued on reverse side)

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			Yes No	Yes No
b. Radioactivity measurement standardization and monitoring techniques and instruments	See Item 8 attachment - resumes.		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 Item 8 attachment - resumes.		

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)
See Item 10 attachment.					

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

See Item 11 attachment - frequency in Item 10 attachment.

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

See attached Health Physics procedures.

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

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 attached Health Physics program for Nuclear facility.

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.

Nuclear Engineering Co., Morehead, Ky.

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.

RECEIVED 1969 APR 29 AM 10 22

Date April 24, 1969

UNITED STATES RADIUM CORP.
Applicant named in item 1

By: O. L. Olson
O. L. Olson

Director, Nuclear Division
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.

* U.S. GOVERNMENT PRINTING OFFICE : 1964 O—745-381

for license application dated March 17, 1967
Copy 1

7.0.0 Administration Procedures

7.1.0 Nuclear Division manager responsibilities.

7.1.1 The division manager is responsible for development and execution of an adequate health physics program consistent with the requirements of applicable State and Federal regulations, and the objectives of professional health physics.

7.1.2 The division manager will review all significant changes in production processes and methods prior to their adoption.

7.1.3 The division manager is responsible for assuring that all appropriate communications are made with regulatory agencies.

7.2.0 Health Physicist Responsibilities.

7.2.1 The Health Physicist is responsible for supervision of the health physics program.

7.2.2 The health physicist shall review all routine radiation program surveys and samples during the same working day in which they are taken. He will review them not later than the next working day in spite of extenuating circumstances.

7.2.3 In the event the health physicist cannot perform the review by the following working day as stated in Section 7.1.2, he will designate a responsible member of management to make the review. The designated individual will be approved by the division manager for each occasion.

7.2.4 The health physicist will recommend corrective action, including work stoppage, to appropriate members of management whenever radiation survey data or other information indicate an unwarranted radiation hazard exists. If the health physicist's recommendations are not acceptable to the manager responsible for the operation involved, the health physicist will report the situation to the Nuclear Division Manager or to a higher company authority as soon as possible, recognizing the need for not allowing the situation to continue for an unwarranted length of time.

7.3.0 Production Manager Responsibilities

7.3.1 Production managers will accept the health physicist's interpretation of the health physics program. Disagreements will be reported immediately to the manager, Nuclear Division.

7.3.2 Production managers will review all significant changes in production processing and methods with the manager, Nuclear Division, prior to adopting the changes.