

Pulled from old file 1 authorization
Feb. 6, 1957 A.N.M.
file license 37-30-2

IN REPLY REFER TO:
LEB:CRB (AU 33634)

Oak Ridge, Tennessee
August 20, 1956

Mr. C. C. Carroll
U. S. Radium Corporation
Morristown, New Jersey

Subject: REVISION OF AUTHORIZATION NO. 33634

Dear Mr. Carroll:

At the request of your supplier, Oak Ridge National Laboratory, we have extended the expiration date of General Authorization No. 33634 to August 31, 1956. Such procedure is not routine considering the company holds broad License No. 37-30-2. This was done as a convenience to the laboratory so they can honor a purchase order from your Bloomsburg plant for a shipment of Cesium sources ordered last May prior to the expiration of the general authorization. All other conditions of the authorization remain the same.

The Oak Ridge National Laboratory has been notified of this revision by means of a carbon copy of this letter.

Very truly yours,

for Lester E. Rogers, Chief
Byproduct Licensing Branch
Isotopes Extension
Division of Civilian Application

OK
cc: CPNL

cc: Helen and Alma

Buchanan/lg
Isotopes
8-20-56

OFFICE ▶					
SURNAME ▶	CRB-				
DATE ▶					

AEC-318 (Rev. 9-65)

U. S. GOVERNMENT PRINTING OFFICE

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II-103

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APPLICATION FOR BYPRODUCT MATERIAL LICENSE
SUPPLEMENT B—SEALED SOURCES

If application is for byproduct material to be used in or manufactured as a "sealed source" complete this supplement and attach to the application for byproduct material license. Applicant for use of sealed source should complete Section I. An applicant desiring to manufacture a sealed source should complete Section II. If information has been submitted previously and there are no changes in the sealed source and/or device design or other changes in information submitted previously, details requested below may be omitted provided reference is made on line below to the application or other document on which this information appears:

SECTION I—USE (See instructions)

1. IF SEALED SOURCE OR DEVICE CONTAINING SEALED SOURCE IS MANUFACTURED COMMERCIALY, GIVE FOLLOWING INFORMATION:
 - A. Manufacturer or supplier of sealed source and/or device: Mound Laboratory, Miamisburg, Ohio
 - B. Make and model number of sealed source and/or device: As advised by vendor
 - C. Person who will hold legal title to sealed source: Customer holding A.E.C. License or U.S.R.C., C. C. Carroll, Chairman, Institutional Isotopes Committee
2. (a) NAME OF PERSON WHO WILL PERFORM NECESSARY PERIODIC LEAKAGE TESTS (12-month interval for beta-gamma, 3-month period for alpha emitters. See instructions)
If held at U.S.R.C., - E. M. Burtsavage, Health-Physicist

(b) IF ABOVE PERSON IS NOT THE SUPPLIER, MANUFACTURER, NOR A COMMERCIAL LABORATORY ROUTINELY OFFERING SUCH SERVICES, GIVE BRIEF STATEMENT OF EXPERIENCE OR TRAINING OF SUCH PERSON IN TECHNIQUES TO BE EMPLOYED, A STATEMENT OF LEAK TESTING PROCEDURES INCLUDING EVIDENCE OF ITS EFFICACY AND INSTRUMENTATION TO BE USED.
3. ARRANGEMENTS WHICH WILL PREVAIL FOR PERFORMING INITIAL RADIATION SURVEY (if appropriate), SERVICING, MAINTENANCE, REPAIR, CONTROL, AND DISPOSAL, ETC., OF THE SOURCE.

SECTION II—MANUFACTURE

4. IF SEALED SOURCE TO BE MANUFACTURED OR FABRICATED BY THE APPLICANT IS DESIGNED TO TRANSMIT ONLY GAMMA RAYS AND CONTACTS IN ELEMENTAL FORM (but not elemental COBALT 60, IRIIDIUM 192, GOLD 198, TANTALUM 182, OR THULIUM 170, GIVE FOLLOWING INFORMATION AND DISREGARD QUESTIONS 5 THROUGH 11 ON THIS SUPPLEMENT:
 - (a) Quantity of byproduct material per source and model number.
 - (b) Leak testing procedure to be employed:
 - (c) Attach annotated engineering drawing of source container and holder, if any.
 - (d) Describe label to be affixed to source container and/or source holder (or attach copy. See instructions).

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
SUPPLEMENT B-SEALED SOURCES

ALL SEALED SOURCES OTHER THAN THOSE DEFINED IN ITEM 4

5. QUANTITY OF BYPRODUCT MATERIAL PER SOURCE AND MODEL OR DRAWING NUMBER

Up to 10 curies Polonium

6. MEANS BY WHICH BYPRODUCT MATERIAL WILL BE DEPOSITED IN SOURCE CONTAINER

See letter dated July 24, 1956 to Mr. Lester R. Rogers

7. ATTACH ANNOTATED ENGINEERING DRAWING OF SOURCE CONTAINER AND HOLDER IF ANY

8. TYPE OF SEAL TO BE USED TO PRECLUDE LEAKAGE OF RADIOACTIVITY TO EXTERIOR OF SOURCE

9. IF SOURCE HOLDER IS TO BE USED WILL CONTAINER BE PERMANENTLY OR SEMIPERMANENTLY MOUNTED THEREIN?

10. DESCRIBE LABEL TO BE AFFIXED TO CONTAINER AND/OR SOURCE HOLDER (Or attach copy - See instructions)

11. EVIDENCE OF STABILITY OF SOURCE CONTAINER MATERIAL TO IRRADIATION FROM BYPRODUCT MATERIAL THEREIN (Only if such stability is obvious)

12. LEAK TESTING PROCEDURE TO BE EMPLOYED INCLUDING EVIDENCE OF ITS EFFICACY AND INSTRUMENTATION TO BE USED

DEVICES CONTAINING SEALED SOURCE

(Give following information if sealed source is to be mounted in a device)

13. ATTACH ANNOTATED ENGINEERING DRAWING OF DEVICE INCLUDING MODEL NUMBER AND DETAILS OF MOUNTING OF CONTAINER OR SOURCE HOLDER IN THE DEVICE

14. DESCRIBE CONSTRUCTION AND OPERATION OF THE POSITIONING MECHANISM FOR BRINGING SOURCE INTO "ON" AND "OFF" POSITIONS.

15. DESCRIBE CONSTRUCTION AND OPERATION OF READILY VISIBLE INDICATOR OF DEVICE INDICATING "ON" AND "OFF" POSITIONS OF SOURCE.

16. DESCRIBE DESIGN FEATURES WHICH SERVE TO MINIMIZE RADIATION HAZARD FROM THE DIRECT BEAM AND SECONDARY RADIATION (including type and amount of shielding as well as limited accessibility inherent in construction where such is not employed)

17. DESCRIBE LABEL TO BE AFFIXED TO DEVICE (Or attach copy - See instructions)

18. RADIATION PROFILE OF A PROTOTYPE DEVICE IS ATTACHED (Circle your answer)

YES

NO

Form AEC-313
(Rev. March 1951)
B B No. 30-R12-1

APPLICATION FOR RADIOISOTOPE PROCUREMENT
FOLLOW ATTACHED INSTRUCTIONS

74
LEAVE BLANK

TO: U. S. ATOMIC ENERGY COMMISSION, POST OFFICE BOX E, OAK RIDGE, TENNESSEE, ATTENTION: ISOTOPES DIVISION

1. NAME AND ADDRESS OF APPLICANT (Instruction Form, etc. Follow Instruction No. 1A)

United States Radium Corporation
P. O. Box 380, Bloomsburg, Pa.

2. DEPARTMENT TO USE ISOTOPE
(Follow Instruction No. 2B)

Laboratory

3. NAME AND ADDRESS OF INDIVIDUAL USER (Follow Instruction No. 3A)

H. H. Dooley
United States Radium Corporation, P.O. Box 380, Bloomsburg, Pa.

4. EXPERIENCE OF THE USER (Follow Instruction No. 3B)

16 years experience in the handling of radioactive materials.
6 years experience in the handling of radioisotopes.

RADIOISOTOPE REQUESTED (Follow Instruction No. 4)

5. ISOTOPE (Name and mass number)

Po 210

6. CHEMICAL FORM

Nitrate Salt

7. QUANTITY (Microcuries or Radium
equivalent)

10 Curies

8. OTHER SPECIFICATIONS

9. ITEM NO. (If any) IN U. S. AEC CATALOG

10. NAME AND ADDRESS OF SUPPLIER, IF KNOWN

Mound Laboratory, Miamisburg, Ohio

STATEMENT OF USE (Follow Instruction No. 5)

11. STATE PROPOSED USE OF RADIO MATERIAL AND GENERAL PLAN OF INVESTIGATION

For incorporation into radioactive foil. ~~Foil~~ to be supplied to Nuclear Products Co. under their authorization #19658, Revision #2, with the customers use defined under special instructions on that authorization.

12. WILL THE RADIOISOTOPE BE USED IN HUMAN BEINGS? (Follow Instruction No. 6A)

CIRCLE YOUR ANSWER

YES

NO

13. A. HUMAN DOSAGE
(In microcuries per patient)

B. NUMBER OF DOSES
(Per patient)

C. NUMBER AND TYPE OF PATIENTS

D. COMPOUND ADMINIS-
TERED

E. SAMPLE TO BE TAKEN FOR
MEASUREMENT

14. APPROVAL OF THE USER'S LOCAL ISOTOPE COMMITTEE (Follow Instruction No. 6B)
"THE LOCAL ISOTOPE COMMITTEE APPROVES THE HUMAN USE AS INDICATED IN ITEMS 11-13"

H. H. Dooley
(Signature of Chairman, Local Isotope Committee)

15. WILL THE RADIOISOTOPE BE USED IN LOWER ANIMALS?

CIRCLE YOUR ANSWER

YES

NO

16. IS A COMPLETED FORM AEC-313A A PART OF THIS APPLICATION? (Follow Instruction No. 7)

CIRCLE YOUR ANSWER

YES

NO

17. MAY THE ISOTOPES DIVISION RELEASE GENERAL INFORMATION REGARDING MATERIAL USES AND PURPOSE?
(If your answer is "No," please state your reasons here)

CIRCLE YOUR ANSWER

YES

NO

READ THE TERMS AND CONDITIONS ON THE BACK OF THIS SHEET AND SIGN THE CERTIFICATE THAT FOLLOWS—AN UNSIGNED APPLICATION CANNOT BE CONSIDERED

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TERMS AND CONDITIONS

In consideration of the issuance of an authorization from the Commission to enable the applicant to procure or obtain the radioisotopes or irradiation service requested herein, the applicant agrees that:

1. Radioisotopes purchased or acquired from the Commission or a distributor are shipped from the laboratory, plant, facility, or Commission office handling the transaction, at prices and service fees as fixed by the Commission, and title to said materials, if same are not already owned by the applicant, shall pass to the applicant when the materials are delivered to the carrier. When shipment of the materials requires the use of returnable Government owned containers, title to such containers shall remain in the Government and a deposit to insure return of the containers will be made if required. The applicant will keep the containers in good condition, will not use them for any materials other than the materials shipped therein, and will return them to point of shipment, transportation prepaid, within 21 days of date of shipment.
2. Neither the Government, the Commission, nor any distributor will be responsible for:
 - (a) any damage to, destruction to, loss of, or changes in physical or chemical properties of materials of any kind accepted for a service irradiation, either as a result of, or in the process of, the irradiation or while said materials are in the possession of the Commission or a distributor;
 - (b) any injury to persons or other living things or for damage to property caused by handling, shipment, use (including use based on any statement of quality or quantity), storage, transfer, disposal, or reshipment of, or other act or failure to act in connection with any materials purchased or acquired from the Commission or a distributor, or procured from any source upon the Commission's approval, it being expressly agreed that, as between the Commission, the supplying distributor, and the applicant, the applicant assumes complete responsibility and liability for any such injury or damage occurring. Provided, however, that if such injury or damage is caused solely by the negligent packing of the Commission or a distributor this assumption of liability shall not apply.
3. Neither the Government, the Commission, nor any distributor makes any warranty or other representation that (a) materials accepted for a service irradiation will not be destroyed, damaged, or otherwise altered in physical or chemical properties in the process of irradiation, and (b) radioisotopes (1) will not result in injury or damage when used for the purposes approved by the Commission, (2) will accomplish the results for which they are requested and approved by the Commission, (3) are safe for any other use, or (4) are of a particular quality or quantity. When procuring radioisotopes from the Commission or a distributor the applicant agrees to report promptly whether the amount received represents the amount paid for, in order that discrepancies may be adjusted.
4. Neither the Government, the Commission, nor any distributor shall be responsible, irrespective of cause, for the failure of the Commission, and distributor, or other transferee to (a) deliver radioisotopes at specified times, or (b) deliver radioisotopes of specified quality.
5. When materials supplied for a service irradiation are:
 - (a) from an applicant not authorized to possess or use radioisotopes, the Commission or the distributor shall have the right to retain possession and control of the irradiated materials throughout the period of measurable activity of such materials, and unless otherwise stated in the request for service irradiation, may dispose of such materials in accordance with

the usual Commission or distributor disposal procedures for radioactive materials.

- (b) to be tested or analyzed and retained by the Commission or a distributor, such materials may, unless otherwise stated in the request for service irradiation, be disposed of in accordance with the usual Commission or distributor disposal procedures for radioactive materials.

It is expressly agreed that if any irradiated materials covered by (a) or (b) above must be retained by the Commission or a distributor in order to protect health and minimize other hazards to life or property, the applicant will pay all storage and maintenance charges connected therewith, and if any irradiated materials belonging to the applicant are disposed of under the provisions of this paragraph, the applicant shall have no claim for the value or replacement of said materials.

6. The Commission shall have the right to publish and use any information or knowledge acquired as a result of the irradiation of materials furnished by the applicant, including results of tests and analyses made for the applicant in connection with any such irradiated materials.
7. The right to revoke or cancel, with or without cause, arrangements for or agreements for the purchase or acquisition of any radioisotopes from a distributor, including arrangements or agreements for service irradiations, is reserved to the Commission. In the event the Commission revokes or cancels any arrangement or agreement for a service irradiation, the Government, the Commission, and the distributor shall be discharged of all obligations thereunder by return to the applicant of an amount of nonirradiated material of like kind, quality, and quantity as the material accepted for irradiation.
8. Title to and possession of all radioisotopes purchased or acquired from the Commission or from a distributor, or from any source on the authorization or approval of the Commission, remain subject to the Commission's statutory right to recall. Title to any materials recalled by the Commission shall vest in the Commission with the exercise of this right, and the Commission may enter and take possession of said materials any time after notice is given that the materials are being recalled. Provided, that if requested, the applicant, at his expense, will make shipment of the recalled materials to a destination designated by the Commission.
9. The applicant agrees to indemnify the Government, the Commission, their officers, agents, contractors, distributors, servants, and employees against liability, including costs and expenses incurred, for infringement of any Letters Patent occurring in the course of any service irradiation, test, or analysis performed for the applicant by the Commission or its distributors, or occurring in the utilization by the applicant of any radioisotopes or irradiated materials.
10. The applicant will furnish to the Isotopes Division six copies of each article published on the results of his investigations using radioisotopes or irradiation services, or will upon request furnish to the Isotopes Division a report of the results of his investigations.
11. Any radioisotopes received as a consequence of this application will be dealt with in accordance with all instructions, recommendations, or standards issued by the Commission for the safe use, handling, or disposal of radioactive materials.
12. All purchase orders and agreements for procuring radioisotopes are subject to the terms and conditions hereof and any contrary conditions of sale or transfer contained in such purchase orders or agreements will not apply.

CERTIFICATE

The applicant and any official executing this application in behalf of the applicant, certify that the information stated herein is true and correct, that this application is made under and in conformity with Code of Federal Regulations, Title 10, Atomic Energy, Part 30, Radioisotope Distribution, and agree that this application and any materials procured pursuant thereto are subject to the terms and conditions on this page.

October 19, 1955

(Date)

H. W. Woolley

(Signature of Applicant or Certifying Official)

Chief Chemist

(Title)

WARNING

18 U. S. C. Sec. 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.

UNITED STATES ATOMIC ENERGY COMMISSION
AUTHORIZATION FOR RADIOISOTOPE PROCUREMENT

SERIAL NO.

2557

The original of this form is the only approval for procurement and is not transferable. Duplicates are for information and record only.

TO: **United States Radiac Corporation**
Laboratory Department
P. O. Box 300
Blomensburg, Pennsylvania

Attn: Mr. H. H. Dooley

DATE

July 1, 1955

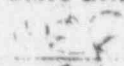
Your application for radioisotopes is approved for the material indicated below, subject to and in accordance with your application and applicable laws and regulations. Issuance of this authorization to obtain and use radioisotopes for the purposes stated hereon and from the supplier(s) indicated is based upon the Atomic Energy Act of 1946, as amended, and regulations issued pursuant thereto. Shipment and use of the materials approved hereon may also be subject to control by other Federal, State, or local authority.

1. ITEM NO.	2. ISOTOPE	3. FORM
	²¹⁰ Polonium	

4. QUANTITY
25 curies

5. YOU ARE AUTHORIZED TO USE THIS MATERIAL FOR THE FOLLOWING PURPOSE(S):
Fabrication of neutron sources (up to 250 millicuries each) for distribution to AEC authorized users.

6. YOU ARE AUTHORIZED TO OBTAIN THIS MATERIAL FROM THE FOLLOWING SUPPLIER(S):
To be procured from the supplier listed on Application Form AEC-313 (Mound Laboratory, Miamisburg, Ohio) unless specifically modified by the Isotopes Division at request of the applicant.

THIS AUTHORIZATION EXPIRES **September 30, 1956** FOR THE UNITED STATES ATOMIC ENERGY COMMISSION
BY  **for** Chief, Isotopes Division,
Oak Ridge Operations,
Oak Ridge, Tenn.

~~UNLESS EXTENDED BY THE COMMISSION~~

SPECIAL INSTRUCTIONS

Except as otherwise provided herein, radiomaterials procured pursuant to this authorization shall be used at the location(s) and for the purpose(s) stated herein, in accordance with the Terms and Conditions of the Application Form AEC-313 and the Code of Federal Regulations, Title 10, Part 30, and by, or under the supervision of, the individual named above.

NOTICE TO SUPPLIER - Advise the Isotopes Division promptly of all shipments made under this authorization.

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APPLICATION FOR RADIOISOTOPE PROCUREMENT

STATEMENT OF FACILITIES FOR RADIATION MEASUREMENT AND HEALTH SAFETY MONITORING

Radioisotopes may be distributed and instruments equipped to these safety standards for the protection of health. This part of form AEC-101 must be completed in duplicate and left attached to your first application. It may be detached from subsequent applications provided, the applicant is held responsible for the items listed.

19. NAME AND ADDRESS OF APPLICANT (See instructions)

United States Radium Corporation
 P. O. Box 380, Elocksburg, Pa.

20. DATE

May 12, 1955

20. NAME AND TITLE OF USER (See instructions)

21. DEPARTMENT

LIST OF RADIATION INSTRUMENTS AVAILABLE

22. KIND OF INSTRUMENT

23. MAKE AND SERIAL NO.

24. SENSITIVITY RANGE

25. USE (Check appropriate use of instrument)

Isotope Committee approval of each proposed use will indicate that, in the judgment of the Committee, adequate facilities are available for radiation measurement, monitoring, and health protection.

The Radiological Safety Officer has immediate access to the following monitoring instruments:

- 1 - Beckman MI-2 Survey Meter
- 1 - Tracerlab 80-1B
- 1 - Nuclear Corp. of America PM-1 Geiger Tube Radiation Monitor
- 1 - Kellogg K-391B Alpha, Beta, Gamma Survey Meter
- 1 - Kellogg K-425 Charger-Reader with K-700 Pocket Chambers
- Landsverk L66 and L67 Chambers with L60 Charger-Reader
- Proportional and Geiger Counters with Scalers
- Film Badges
- 2 - Nuclear Instrument and Chemical #1615-B Counting Rate Meter - thin window tube
- 1 - SRI-1 Juno Survey Meter - Alpha, Beta, Gamma
- 1 - HAJ-3 " " "
- 1 - Ionization Chamber for Alpha Calibration
- 1 - Air Sampling Monitor (Staplex)
- 1 - BF₃ Neutron Counting System

26. HOW ARE INSTRUMENTS CALIBRATED?

Monthly - against calibrated radium standards

27. HOW FREQUENTLY ARE INSTRUMENTS CALIBRATED?

Monthly