

U. S. ATOMIC ENERGY COMMISSION  
BYPRODUCT MATERIAL LICENSE

Page 1

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 1, Licensing of Byproduct Material, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess, transfer and import byproduct material listed below; and to use such byproduct material for the purpose(s) and at the place(s) designated below. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect and to any conditions specified below.

Licensee		3. License number	11-197-5 (B65)
1. Name	University of Idaho Department of Physical Sciences	4. Expiration date	February 28, 1965
2. Address	520 East B Street Moscow, Idaho	5. Reference No.	
6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time	
A. Carbon 14	A. Any	A. 1 millicurie	
B. Hydrogen 3	B. Any	B. 100 millicuries	
C. Phosphorus 32	C. Any	C. 10 microcuries	
9. Authorized use			

A. through C. Laboratory studies on antibiotics.

## CONDITIONS

10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.
11. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation."
12. Byproduct material shall be used by, or under the supervision of, W. T. Collins.
13. Byproduct material shall not be used in field applications or studies.
14. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7 and 8 of this license in accordance with statements, representations and procedures contained in his application dated November 14, 1962.

For the U. S. Atomic Energy Commission

Date February 28, 1963DUPLICATED  
FOR DIV. OF COMPLIANCEOriginal Signed by  
John E. Bowyer  
Isotopes BranchDivision of Licensing and Regulation  
Washington 25, D. C.DHA  
1103-H/Kawer

P110

Feb 28, 1965

UNITED STATES  
ATOMIC ENERGY COMMISSION  
CERTIFICATE—DISPOSITION OF RADIOISOTOPES

LICENSEE (Institution, firm, hospital, person, etc.)

University of Idaho

LICENSE NUMBER

11-197-5 (expired) <sup>2/28/65</sup> ↑

ADDRESS

Moscow, Idaho

DEPARTMENT(S)

College of Forestry/Forest Service

INDIVIDUAL RADIOISOTOPE USER(S)

W. T. Collins

CERTIFICATION

The licensee and any individual executing this certification on behalf of the licensee certify that (check appropriate item(s) below):

☒ No byproduct materials have been procured and/or possessed by licensee.

OR

All byproduct materials procured and/or possessed by licensee under Byproduct

Material License No. \_\_\_\_\_ have been:

☐ (1) transferred to (state name of institution, firm, hospital, person, etc.)

\_\_\_\_\_ which has Byproduct Material License No. \_\_\_\_\_

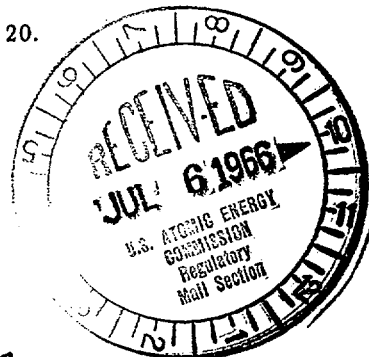
☐ (2) disposed of by decay.

☐ (3) disposed of in compliance with the provisions of 10 CFR 20.

Remarks:

OK [Signature]

DUPLICATED  
FOR DIV. OF COMPLIANCE



[Signature]

(Signature of certifying official)

Radiological Safety Officer

Date 23 June 1966

UNIVERSITY OF IDAHO

MOSCOW, IDAHO



Engineering Experiment Station

OFFICE OF THE DIRECTOR

221

2 February 1966

Mr. Richard E. Cunningham  
Chief, Isotopes Branch  
Division of Materials Licensing  
U. S. Atomic Energy Commission  
Washington, D. C. 20545

Re: License Number 11-197-5  
DML: IB: 34  
My letter of 1/7/66

Dear Mr. Cunningham:

As per the above-referenced subjects, you will recall that the University of Idaho was notified concerning the expiration of its Byproduct Material License Number 11-197-5 and that no renewal application had been filed. Subsequent to receiving this notification, my reply of 7 January 1966 indicated that this license was to remain expired and that we felt no radioactive materials had been purchased under that license.

I did contact Dr. W. T. Collins, the user authorized under this license, requesting information concerning whether or not any materials had actually been purchased. Attached is a photocopy of his reply stating that no such materials had ever been procured.

Since no materials were procured under this license and since there is no intention of renewing this license, this license file can be considered closed.

Very truly yours,

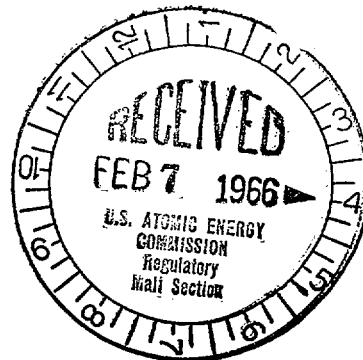
G. A. McKean  
Radiological Safety Officer

GAM/cw

Enclosure

OK  
FA

DUPLICATED  
FOR DIV. OF COMPLIANCE



519 Lafayette Blvd.  
Long Beach, New York

January 23, 1966

321

Dr. G. A. McKean  
University of Idaho  
Moscow, Idaho

Dear Dr. McKean:

Thank you for your letter of January 10.

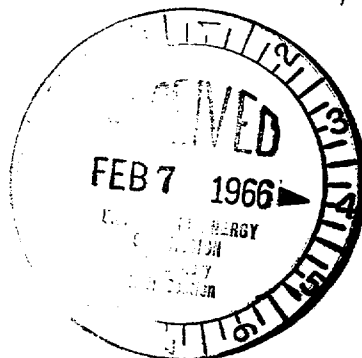
Since no radioactive materials were procured under  
the A.E.C. license there is no problem in disposal.

I am sorry for any inconvenience you may  
have been caused. Thank you for your trouble.

Sincerely yours,  
Walter J. Collins

Photocopy to

1. A.E.C.
2. Univ. Bus. Office



Page

## UNIVERSITY OF IDAHO

MOSCOW, IDAHO



Engineering Experiment Station

OFFICE OF THE DIRECTOR

7 January 1966

Mr. Richard E. Cunningham  
Chief, Isotopes Branch  
Division of Materials Licensing  
U. S. Atomic Energy Commission  
Washington, D. C. 20545

Re: License No. 11-197-5  
DML:IB:34

Dear Mr. Cunningham:

We are in receipt of your letter dated 16 December 1965 and addressed to K. A. Dick, Financial Vice President, University of Idaho. That letter stated that our Byproduct Material License No. 11-197-5 expired on 28 February 1965 and that no renewal application had been filed. Subsequent to receiving your letter, our usually prompt reply was delayed by Christmas vacation schedules and the necessity to contact your office for additional information concerning the above-referenced license.

We have learned that the user authorized under this license, Dr. W. T. Collins, was accorded University academic status while employed by the U. S. Forest Service, Moscow, Idaho. During that time he applied for and received the above-referenced license. Since that time, Dr. Collins has resigned his position and has assumed employment in the State of New York.

Our records indicate that the use for which the license was issued never transpired and that no byproduct materials were ever purchased under License No. 11-197-5. Assuming this to be the case, no license renewal is necessary and no materials exist requiring disposal. To ensure that this information is correct, we are attempting to contact Dr. Collins for verification.

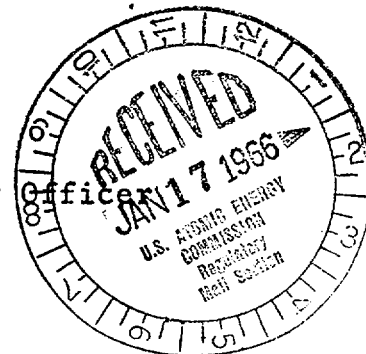
Should you have any information concerning any materials which may have been purchased under this license, we would appreciate learning of this. Any additional information gained from Dr. Collins will be sent to your office promptly.

Very truly yours,

G. A. McKean  
Radiological Safety Officer

RECEIVED  
FOR DIV. OF COMPLIANCE

cc: University Business Office  
Dr. W. T. Collins  
Radiation Control File



L&R:IB:DBH(11-197-5)

MAR 4 1963

University of Idaho  
Department of Physical Sciences  
520 East B Street  
Moscow, Idaho

Attention: Mr. W. T. Collins

Gentlemen:

Enclosed is a corrected copy of the byproduct  
material license recently issued to the University  
of Idaho.

The original copy contained an error in the license  
number; License Number 11-197-5 is now the valid  
license naming W. T. Collins as the principle user.

Very truly yours,

John E. Bowyer  
Isotopes Branch  
Division of Licensing  
and Regulation

Enclosure:  
As stated above

OFFICE ▶	L&R: IB	L&R: IB				
SURNAME ▶	Howell/vk	Bowyer				
DATE ▶	3-1-63	3- -63				

U. S. ATOMIC ENERGY COMMISSION  
BYPRODUCT MATERIAL LICENSEPage 1 of 1 Pages

*Corrected Copy*

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, Licensing of Byproduct Material, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess, transfer and import byproduct material listed below; and to use such byproduct material for the purpose(s) and at the place(s) designated below. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect and to any conditions specified below.

Licensee			
1. Name	<b>University of Idaho Department of Physical Sciences</b>	3. License number	<b>11-197-5 (865)</b>
2. Address	<b>520 East 5 Street Moscow, Idaho</b>	4. Expiration date	<b>February 28, 1965</b>
		5. Reference No.	
6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time	
A. Carbon 14	A. Any	A. 1 millicurie	
B. Hydrogen 3	B. Any	B. 100 millicuries	
C. Phosphorus 32	C. Any	C. 10 microcuries	
9. Authorized use			
A. through C. Laboratory studies on antibiotics.			

## CONDITIONS

10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.
11. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation."
12. Byproduct material shall be used by, or under the supervision of, W. T. Collins.
13. Byproduct material shall not be used in field applications or studies.
14. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7 and 8 of this license in accordance with statements, representations and procedures contained in his application dated November 14, 1962.

Date February 28, 1963

For the U. S. Atomic Energy Commission

Original Signed by  
John E. Bowyerby Isotope Branch  
Division of Licensing and Regulation  
Washington 25, D. C.

DLR:IB:BBH (47699)

University of Idaho  
Department of Physical  
Sciences  
520 East B Street  
Moscow, Idaho

DEC 31 1962

Attention: Mr. Walter T. Collins

Gentlemen:

Enclosed is a copy of your application for byproduct material license dated November 14, 1962. The application has been returned for the proper signatures, in accordance with Item 2.2 of your Regulations Governing the Safe Handling of Radioisotopes at the University of Idaho, and return to this office.

We request that you explain any proposed field uses of byproduct materials, and the methods by which such uses will be controlled within a specified properly posted area and unauthorized persons excluded from the area.

Review of your application will be resumed upon receipt of the above.

Very truly yours,

John E. Bowyer  
Isotopes Branch  
Division of Licensing and  
Regulation

Enclosure:

As stated

bcc: Co. Region III

OFFICE ▶	DLR:IB	DLR:IB				
SURNAME ▶	Howell:ytic	Bowyer				
DATE ▶	12-28-62	12-31-62				

520 East 15 St.  
Moscow, Idaho  
Dec. 20, 1962

6268

U. S. Atomic Energy Commission  
Division of Licensing and Regulation  
Washington 25, D.C.

new  
11-9162-1

Gentlemen:

I would appreciate any information you might be able to give me regarding the procedure that I should follow in order to change an item in my application for by-product material license. I would like to change the TRITIUM  $H^3$  maximum number of milligrams from 5 to 100.

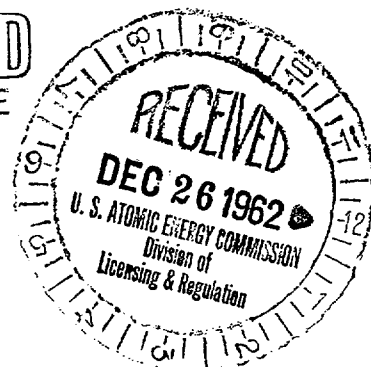
This application has been given control # 47699.

Thank you.

Sincerely,  
Kalter J. Collins

DUPLICATED  
FOR DIV. OF COMPLIANCE

ACKNOWLEDGED



Form AEC-313  
(5-58)

ATOMIC ENERGY COMMISSION

# APPLICATION FOR BYPRODUCT MATERIAL LICENSE

Form approved.  
Budget Bureau No. 38-R027.3.

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><b>Walter T. Collins 520 East "B" St. Moscow, Idaho</b></p>	<p>(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a).)</p> <p><b>University of Idaho Moscow, Idaho</b></p>
<p>2. DEPARTMENT TO USE BYPRODUCT MATERIAL</p> <p><b>Department of Physical Sciences</b></p>	<p>3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.)</p> <p><b>None</b></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><b>Walter T. Collins Plant Physiologist U. S. Forest Service</b></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><b>Dr. P. K. Freeman</b></p>
<p>6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.)</p> <p><b>Carbon 14</b></p> <p><b>Tritium H<sup>3</sup></b></p> <p><b>Phosphorous 32</b></p>	<p>(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.)</p> <p><b>Variously labeled biological materials such as amino acids, sugars, steroids, etc. Total on hand to be 1 millicurie.</b></p> <p><b>Tritiated antibiotics, such as cycloheximide, phytoactin, etc. Total on hand to be 5 millicuries.</b></p> <p><b>Organic phosphorous compounds resulting from the activation of paper chromatograms of biological samples. Total on hand to be 0.01 millicuries.</b></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.)

**The carbon 14 will be used to study the metabolic effects of antibiotics used to control certain forest tree diseases.**

**The tritiated antibiotics will be used in the study of translocation and persistence of antibiotics used in the control of certain forest tree diseases.**

**The organic phosphorous compounds resulting from the activation of paper chromatograms will be used to study the metabolic effects of antibiotics used to control certain forest tree diseases.**

RECEIVED

47699

## 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	Colorado State University	3 Mos.	Yes <input type="radio"/> No <input checked="" type="radio"/>	<input checked="" type="radio"/> Yes <input type="radio"/> No
b. Radioactivity measurement standardization and monitoring techniques and instruments	Colorado State University	3 Mos.	Yes <input type="radio"/> No <input checked="" type="radio"/>	<input checked="" type="radio"/> Yes <input type="radio"/> No
c. Mathematics and calculations basic to the use and measurement of radioactivity	Colorado State University	3 Mos.	Yes <input type="radio"/> No <input checked="" type="radio"/>	<input checked="" type="radio"/> Yes <input type="radio"/> No
d. Biological effects of radiation	Colorado State University	3 Mos.	Yes <input type="radio"/> No <input checked="" type="radio"/>	<input checked="" type="radio"/> Yes <input type="radio"/> 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
<sup>14</sup> C	No license needed amounts.	Colorado State University	Two years (during Ph. D. research).	Used to study effect of anti-metabolites upon flowering.

## 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)
See Item 10 on attached sheets.					

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

See Item 11 on attached sheets.

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

Ten Atomic Accessories Model L-50-57 Landsverk Dosimeters, range 0-200 mr.

## 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 ☐ **Radioisotopes Lab., description attached (Item 13).**
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 copy of "Regulation Governing Safe Handling."**
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. **See Item 15 on attached sheet.**

## 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 **November 14, 1962**

Applicant named in item 1

Kenneth A. Dick

Financial Vice President  
University of Idaho

Title of certifying official

12 Feb 63

NOV 19 1962

U.S.A.E.C.  
Isotopes Branch  
Div. of L & R

**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.

**Item 13. Facilities and Equipment - Radioisotopes Laboratory Building**

**1. Radiochemical Laboratory**

Two hoods, benches, distilled water, waste disposal cans for "hot" and normal waste, chemical glassware, chemicals, and general laboratory supplies, gas, H and C water, balances, remote pipettor, two Atomic Accessories Model RHT-60-3 remote handling tools, 25 Atomic Accessories Model LB-24 lead bricks and:

3	Atomic Accessories Model	AB-23	absorber sets
1	"	"	" L-75 isotope analysis kit (electroscope)
10	"	"	" IF-1 indium foils
2	"	"	" PC-14 planchet storage cabinets
1000	"	"	" NP-11 nickel-plated cupped planchets
1000	"	"	" LT-16 lusteroid well counter tubes
5	"	"	" PF-44 planet forceps
5	"	"	" RD-43 ring and disc sets
1	"	"	" SPP-69 sample spinner
20	"	"	" DMP-74 micropipette transfer (2 ea. 1 $\lambda$ , 2 $\lambda$ , 5 $\lambda$ , 10 $\lambda$ , 25 $\lambda$ , 50 $\lambda$ , 100 $\lambda$ , 250 $\lambda$ , 500 $\lambda$ , and 1 ml.)
1	"	"	" RP-65 remote pipetter
1	Western Radiation Lab		8-200 lead container for 1 mc Co <sup>60</sup> -- to be supplied with Co <sup>60</sup>
1	Atomic Accessories Model	LS-62	lead shield and collimator
10	"	"	" BSS-35 shielded syringe (0.10 cc)
1	"	"	" SL-71 education source kit
2	"	"	" RHT-60-3 remote handling tools
1	Curtiss-Wright		Neutron Nowitzer

**2. Preparation Laboratory**

Carver press; balance, Wiley Mills; large waste cans

**3. Counting Room**

1	Baird-Atomic Model	255	nonoverloading proportional amplifiers
5	"	"	" 960 dual purpose precision timers
5	"	"	" 800D low background iron shields
1	Atomic Accessories Model	RRMA-X-X51	single channel recorder
1	Baird-Atomic Model	812	Scintillation probe
1	Atomic Accessories Model	L-24K-58	Landsverk charger
2	"	"	AGR-28 pressure regulators

**4. Storage Rooms - 2.**

Steel safe for isotopes storage; air conditioner

**5. Dark Room**

Enlarger, mechanical developer, printer, safe lights, refrigerator, developing pans, racks.

RECEIVED  
JAN 10 1964  
U.S. GOVERNMENT PRINTING OFFICE

47699

**Item 13 - continued. Facilities and Equipment.....**

**6. Office**

**Desk, chairs, filing cabinet, shelving, table.**

**7. Lavatory and Wash-up Facilities**

**8. Waste storage pit, concrete lined 5'x5'x5', underground, at rear of building.**

Item 15. Waste Disposal.

Disposal of waste will be carried out according to the attached

"Regulations Governing the Safe Handling of Radioactive Isotopes at the

University of Idaho." More specifically, in relation to this application,

p<sup>32</sup> will be stored in a radiochemical hood for decay. With 1 mc. of activity, after a period of 10 months, it will be possible to make a disposal meeting

the requirements of the Federal Register, Jan. 29, 1957, Title 10, Part 20,

Section 20.303.

Disposal of the C<sup>14</sup> waste will be made in the University of Idaho's

burial ground according to the requirements of the Federal Register, Jan. 29,

1957, Title 10, Part 20, Section 20.304.

The waste storage pit mentioned in Item 13 does not now contain any

activity and will not be used for further storage of radioisotopes.