

U. S. ATOMIC ENERGY COMMISSION  
BYPRODUCT MATERIAL LICE.  
Supplementary Sheet

License Number 11-00197-08

Amendment No. 03

University of Idaho  
Division of Adult Education  
Moscow, Idaho 83843

In accordance with application dated September 26, 1967, License Number 11-00197-08 is amended as follows:

The expiration date in Item 4 is changed to November 30, 1972.

Condition 12. is amended to read:

12. Byproduct material shall be used by, or under the supervision and in the physical presence of, David G. Hanson, Charles E. McJilton, or Merlin W. Nelson.

*A18*

For the U. S. Atomic Energy Commission

Original Signed by  
Nathan Bessin

by Isotopes Branch  
Division of Materials Licensing  
Washington, D. C. 20545

NOV 13 1967

Date \_\_\_\_\_

*NB 11/12/67*

*NB/cjk*

MATERIAL LICENSE  
Supplementary Sheet

License Number 11-00197-08

Amendment No. 02

University of Idaho  
Division of Adult Education  
Moscow, Idaho 83843

In accordance with application dated December 15, 1966, License Number 11-00197-08 is amended as follows:

Items 6, 7, 8, and 9 are amended to add:

<p>6. Byproduct material (element and mass number)</p> <p><b>B. Cesium 137</b></p>	<p>7. Chemical and/or physical form</p> <p><b>B. Minnesota Mining and Manufacturing Company Model 4D6E Sealed Source</b></p>	<p>8. Maximum amount of radioactivity which licensee may possess at any one time</p> <p><b>B. 1 source of 1 millicurie</b></p>
--	--	--

9. Authorized use

**B. For use in Office of Civil Defense Model CD V-757 Barrier Shielding Demonstrator Set.**

Condition 14. is amended to read:

**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 application dated August 27, 1965, and application dated December 15, 1966, as amended March 10, 1967.**

(Continued)

Condition 18.A. is amended to read:

18.A. Sealed sources in the OCD Sealed Source Set shall be tested for external leakage and/or contamination upon receipt from another person, except when the licensee receives certification from the person that the sources had been tested within six (6) months prior to transfer and found free of surface contamination. Thereafter, sources shall be tested for leakage and/or contamination at intervals not to exceed six (6) months. Records of leak test results shall be maintained by the licensee.

Add the following condition:

19. A(1) The sealed source in the OCD Model GD V-757 Barrier Shielding Demonstrator Set shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, the sealed source shall not be put into use until tested.
- (2) The periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another person unless they have been leak tested within six months prior to the date of use or transfer.
- B. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.

S. ATOMIC ENERGY COMMISSION  
BYPRODUCT MATERIAL LICENS.

Supplementary Sheet

License Number 11-00197-08

Amendment No. 02

19. (Continued)

- C. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within 5 days of the test with the Director, Division of Materials Licensing, U. S. Atomic Energy Commission, Washington, D. C., 20545, describing the equipment involved, the test results, and the corrective action taken. A copy of such report shall also be sent to the Director, Region IV, Division of Compliance, USAEC, 10395 West Colfax Avenue, Denver, Colorado, 80215.
- D. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically authorized by the Commission or an agreement State to perform such services.

MAR 27 1967

For the U. S. Atomic Energy Commission

Original Signed By  
Nathan Bassin

by Isotopes Branch

Division of Materials Licensing  
Washington, D. C. 20545

3/27/67

NB/cjs

U. S. ATOMIC ENERGY COMMISSION  
BYPRODUCT MATERIAL LICENSE  
Supplementary Sheet

License Number 11-197-8  
(J67)  
Amendment No. 1

University of Idaho  
Division of Adult Education  
Moscow, Idaho 83843

In accordance with application dated November 3, 1965, License No. 11-197-8  
is amended as follows:

Condition 12. is amended to read:

- 12. Byproduct material shall be used by, or under the supervision and in the physical presence of, David G. Hanson or Charles E. McJilton.

For the U. S. Atomic Energy Commission  
Original Signed by

Nathan Bassin

Isotopes Branch

by \_\_\_\_\_  
Division of Materials Licensing  
Washington, D. C. 20545

NOV 30 1965

*NB 11-29-65*

U. S. ATOMIC ENERGY COMMISSION  
BYPRODUCT MATERIAL LICENSE

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	University of Idaho Division of Adult Education	3. License number
2. Address	Moscow, Idaho	11-197-8 (J67)
		4. Expiration date
		October 31, 1967
		5. Reference No.
6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioac- tivity which licensee may pos- sess at any one time
A. Cobalt 60	A. Office of Civil Defense Model CD V-786 or CD V-784 Sealed Source Set	A. 1 set 30 millicuries total

9. Authorized use

A. For use in training radiological monitoring instructors and instrument operators.

CONDITIONS

10. Unless otherwise specified, the authorized place of use in the licensee's address stated in Item 2 above:
11. Byproduct material may also be used throughout the State of Idaho.
12. Byproduct material shall be used by, or under the supervision and in the physical presence of, David G. Hanson.
13. Byproduct material shall be stored in the University of Idaho University Engineering Laboratory, Moscow, Idaho, except for temporary storage at locations where training courses are conducted.
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 application dated August 27, 1965.

U. S. ATOMIC ENERGY COMM. ON  
BYPRODUCT MATERIAL LICENSE

Supplementary Sheet

Continued:

License Number 11-197-S  
(667)

CONDITIONS

- 15. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation."
- 16. Byproduct material as sealed sources shall not be opened.
- 17. Each sealed source of licensed material used outside of a shielded exposure device shall have a durable, legible, and visible tag permanently attached by a durable ring. The tag shall be at least one (1) inch square, shall bear a conventional radiation symbol prescribed in Section 20.203(a) of Part 20, and a minimum of the following instructions: DANGER RADIOACTIVE MATERIAL, DO NOT HANDLE, NOTIFY CIVIL AUTHORITIES IF FOUND.

Replacement of tags and rings shall be carried out by the licensee in accordance with instructions contained in PROCEDURES AND REGULATIONS FOR THE CARE AND USE OF THE OCD CD V-778 RADIATION TRAINING SOURCE SET, dated April 15, 1963.

- 18. A. Sealed sources containing byproduct material, with a half-life greater than thirty (30) days and in any form other than gas, shall be tested for external leakage and/or contamination upon receipt from another person, except when the licensee receives certification from the person that the sources had been tested within six (6) months prior to transfer and found free of surface contamination. Thereafter, sources shall be tested for leakage and/or contamination at intervals not to exceed six (6) months. Records of leak test results shall be maintained by the licensee.
- B. The test for leakage and/or contamination shall be capable of detecting the presence of 0.05 microcurie of radioactive material on the test sample.
- C. If the test reveals any radioactive material, the licensee shall take immediate action to prevent spread of contamination and within thirty (30) days after completion of the test shall notify the Isotopes Branch, Division of Materials Licensing, U. S. Atomic Energy Commission, Washington, D. C., 20545. A copy of the report shall be sent to the Director, Region IV, Division of Compliance, USAEC, P. O. Box 15266, Denver, Colorado 80215.
- D. Leak test of sealed sources in OCD Sealed Source Sets shall be performed by the licensee in accordance with instructions contained in PROCEDURES AND REGULATIONS FOR THE CARE AND USE OF THE OCD CD V-778 RADIATION TRAINING SOURCE SET, dated April 15, 1963.

For the U. S. Atomic Energy Commission

Special Agent in Charge  
Nathan Bassin

by \_\_\_\_\_ Isotopes Branch  
Division of Materials  
Washington, D. C. 20545

Date OCT 15 1965

*162 MB 10-14-65*

DML: IB: NB (100183)

MAR 4 1968

University of Idaho  
Division of Adult Education  
Moscow, Idaho 83843

Attention: Mr. David G. Hanson, Coordinator  
Civil Defense Training Programs  
Division of Continuing Education

Gentlemen:

This refers to your application dated December 12, 1967, for amendment to License No. 11-00197-08.

The information which you have provided concerning the training and experience in radiation of Mr. Russell W. Cooke indicates that his only training and experience was completion of the Radiological Monitoring for Instructors course. The application indicates that Mr. Cooke has completed all other courses indicated by the Office of Civil Defense staff college as being required to perform the work of instruction of RMI courses. The criteria for training and experience for Instructors is contained in the enclosed Office of Civil Defense memorandum dated September 14, 1964. From the information furnished with the application, we are unable to determine that Mr. Cooke has the requisite experience. Accordingly, without further information concerning his training and experience in radiation, we are unable to amend the license to include him as one of the individuals authorized to use a source set for use in training radiological monitoring instructors.

bcc: CO, Region IV

Sincerely yours,

DISTRIBUTION:

- 1 ----- Addressee
- 2 & 3 ----- cc & bcc
- 4 ----- DML Reading File
- 5-6-7-8 --- IB Standard Dist.

Original Signed by  
Nathan Bassin

Nathan Bassin  
Isotopes Branch  
Division of Materials Licensing

Enclosure:  
OCD memo dated 9/14/64

OFFICE	cc: DML: IB Office of Civil Defense				
SURNAME	NBassin/rhw				
DATE	2/28/68				

616  
NB

This is an amendment to the existing license #11-00197-08  
to add the name of Russell Cooke as a user of the Cobalt 60  
(30 millicuries) source and the Caesium 137 (1 millicuries)  
source in Civil Defense training.

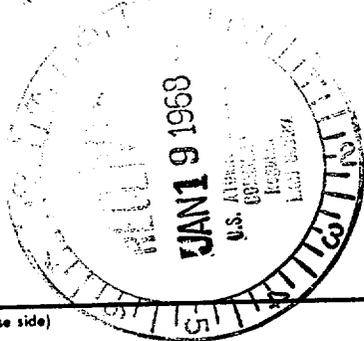
Coordinator *David M. Hanson*

Director of Continuing Education *Paul Kays*

Radiological Safety Officer *Dr. Mylene*

Administration *DeWalter Stephens*

Form AEC-313 (5-58)	ATOMIC ENERGY COMMISSION <b>APPLICATION FOR BYPRODUCT MATERIAL LICENSE</b>		Form approved. Budget Bureau No. 38-R027.4.
<p>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, D.C., 20545. 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.)		(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a).)	
2. DEPARTMENT TO USE BYPRODUCT MATERIAL		3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.)  Amendment to #11-00197-08	
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.)  Russell W. Cooke		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.)	
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.)		
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.)			



(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)	
			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.)

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)

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.)

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.

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 12/17/67

Applicant named in item 1  
 By: Alfred M. Hanson  
 Title of certifying official  
Coordinator, Civil Defense Training Programs, Div. of Cont. Educ. Dept.

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.

This is an amendment to the existing license # 11-00197-08  
to add the name of Merlin W. Nelson as a user of the Cobalt 60  
(30 millicuries) source and the Caesium 137 ( 1 millicuries)  
source in Civil Defense training.

Coordinator: *Alfred G. Hansen P. Hansen*  
Radiological Safety Officer: *Denny V. Naylor*  
Administration *Ernest W. Naitling*



97338

616 2b

Form AEC-313 (5-58)	ATOMIC ENERGY COMMISSION <b>APPLICATION FOR BYPRODUCT MATERIAL LICENSE</b>		Form approved. Budget Bureau No. 38-R027.4.
<p><b>INSTRUCTIONS.</b>—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, D.C., 20545. 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.)		(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a).)	
2. DEPARTMENT TO USE BYPRODUCT MATERIAL		3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.) <b>Amendment to # 11-00197-08</b>	
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>Merlin W. Nelson</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.)	
6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.)		(b) CHEMICAL AND/OR PHYSICAL FORM AND MAXIMUM NUMBER OF MILLCURIES 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.)	
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.)			

97338  
T03

(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)	
			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.)

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)

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.)

**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.

**CERTIFICATE (This item must be completed by applicant)**

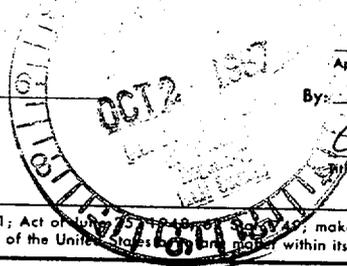
16. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE APPLICANT NAMED IN ITEM 1, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PART 30, AND THAT ALL INFORMATION CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO, IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF.

Date 9/26/67

By: Merlin Nelson  
Applicant named in item 1

By: [Signature]  
Coordinator Civil Defense Training Programs  
Title of certifying official

**WARNING.**—18 U. S. C., Section 1001; Act of October 3, 1957 (Public Law 85-624) makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States or any officer or employee thereof within its jurisdiction.



UNIVERSITY OF IDAHO

MOSCOW, IDAHO 83843



Engineering Experiment Station

10 March 1967

109-712

0637

Mr. Nathan Bassin  
Isotopes Branch  
Division of Materials Licensing  
U.S. Atomic Energy Commission

Re: DML:IB:NB(91596)

Dear Mr. Bassin:

In the above-referenced correspondence to our Civil Defense Coordinator, Mr. David G. Hanson, you requested information concerning equipment which is available for the leak testing of sealed sources.

The required leak tests will utilize a thallium-activated, sodium iodide crystal coupled to a DuMont 6292 phototube. The output of this matched detecto-assembly is counted with a TMC Gammascop 10Z, a 100-channel pulse height analyzer.

Previous inspections by Mr. Eugene McFall, Division of Compliance, Denver, indicate that this scheme is adequate for detecting to 0.005 microcurie.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "G.A. McKean".

G.A. McKean  
Radiological Safety Officer

GAM/lc  
cc: D.G. Hanson

DUPLICATED  
FOR DIV. OF COMPLIANCE



MAR 3 1967

DML:IS:NB(91596)

University of Idaho  
Division of Adult Education  
University Extension Civil  
Defense Program  
Moscow, Idaho 83843

Attention: Mr. David G. Hanson  
Coordinator

Gentlemen:

This refers to your application for amendment to License No. 11-197-8 for a Cesium 137 sealed source in an Office of Civil Defense Model CD-V-757 Barrier Shielding Demonstrator Set.

Enclosed for your information is an announcement prepared by the Office of Civil Defense which specifies the information which should be provided in an application for use of the Barrier Shielding Demonstrator Set. The leak test which must be performed on the sealed source has to be quantitative and the instrumentation which is used for measurement must be capable of measuring 0.005 microcurie of radioactive material. We need to know the instrument which will be used for measurement.

Upon receipt of the above information we shall continue review of your application.

Sincerely yours,

Nathan Bassin  
Isotopes Branch  
Division of Materials Licensing

Enclosure:  
Civil Defense Announcement

cc: Office of Civil Defense

bcc: Standard Branch Distribution  
Compliance, Region IV

MAR 1967	OFFICE ▶	DML:TB				
	SURNAME ▶	NBassin:fk				
	DATE ▶	3/2/67				

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.)  University of Idaho Division of Adult Education Moscow, Idaho 83843	(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a). Include ZIP Code.)  At locations throughout the state of Idaho to be designated. Storage at the University of Idaho, University Engineering Laboratory (Approved Radioactive Material Storage Area)
---	--

2. DEPARTMENT TO USE BYPRODUCT MATERIAL Division of Adult Education University Extension Civil Defense Program	3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.) Amendment to License No. 11-197-8 (J67)
--	--

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.)  David G. Hanson, Coordinator	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.)  George McKean
---	---

6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.)  Cesium 107	(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.)  One OCD CD V-757 Barrier Shielding Demonstrator Set, Model 1, manufactured by Victoreen Instrument Company. It contains one millicurie of cesium 137 oxide within a hermetically sealed source capsule, Model No. 4D6E manufactured by Minnesota Mining and Manufacturing Co.
--	--

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.)

For demonstration (of radiation attenuation) at conferences and training courses by the individuals listed in Item 4. The sealed source is semi-permanently mounted in the base unit of the OCD CD V-757 Barrier Shielding Demonstrator Set and will not be removed or tampered with.

T02  
91596

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	Refer to previously submitted information for license #11-197-8 (J67)		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
		Refer to previously submitted information for license #11-197-8 (J67)		

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)
CD V-138	15	gamma	0-200 mr	30 mr/sq. cm	Personal Monitoring
CD V-700	15	gamma & beta	0-50 mr/hr		
CD V-715	15	gamma	0-500 mr/hr		

11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE.  
 The CD V-700's and CD V-138's and CD V-715's should be calibrated at least annually by the RADEF Maintenance Shop in the State in which the applicant resides.

12. FILM BADGES, DOSIMETERS, AND BIO-ASSAY PROCEDURES USED. (For film badges, specify method of calibrating and processing, or name of supplier.)  
 A CD V-138 should be worn by the user and cumulative dose records kept.

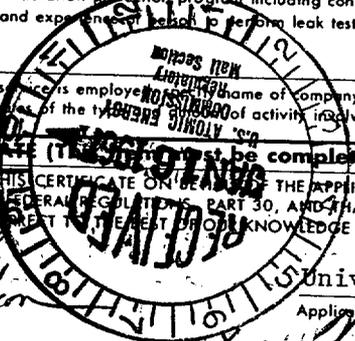
**INFORMATION TO BE SUBMITTED ON ADDITIONAL SHEETS IN DUPLICATE**

- 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 performing 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 types and amounts of activity involved.

**CERTIFICATE (This certificate 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.

X W. J. Hansen, Vice President  
Univ of Adult Education  
 Date December 15, 1966  
 X G. A. McKean, Radiological Safety Officer  
 Date 12/19/66  
 X University of Idaho, Division of Adult Education  
 Applicant named in item 1  
 By K. A. Dick  
 Title of certifying official Financial Vice President  
 Date 12 January 1967



**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. In addition to the previously submitted information, the storage of the Barrier Shield Demonstrator will be identical to those existing in the present lease, i.e. University of Idaho Engineering Laboratory, Moscow, Idaho, except for temporary storage at locations where the training courses are conducted. Transportation will be under the direction of the University Radiation Safety Officer, George McKean, and by his specifications. Temporary storage locations will be to his specifications, also.

Item 14 - Radiation Protection Program. In addition to previously submitted information, the area of use will be posted with radiation signs, dosimeters will be distributed to those nearest the set, and records kept of their exposure. In case of accident or loss, AEC recommended procedures will be followed in accordance with University of Idaho guidelines.

Item 15 - Waste Disposal. The Demonstrator Set is on a loan basis from the Office of Civil Defense, when no longer required instructions for its disposition will be requested from the appropriate Office of Civil Defense office.

*[Handwritten signature]*



UNIVERSITY OF IDAHO

MOSCOW, IDAHO 83843



*Division of Adult Education  
and Summer School*

UNIVERSITY EXTENSION CIVIL DEFENSE PROGRAM

November 3, 1965

TU3-0110

x 436

61603  
NS  
449/210

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

ATTENTION: Isotopes Branch: Division of Materials Licensing

Dear Sir:

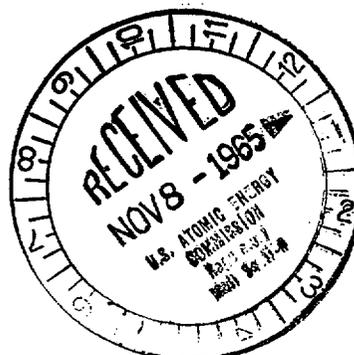
With regard to license 11-197-8 (J67) granted to the University of Idaho for use of the Civil Defense sealed source set (CDV-786 or CDU-784), I would like to have the license amended to include my name under item 12 as a user of the by product material. My qualifications include a masters degree in radiological health from the University of Minnesota, granted in June, 1965, and completion of the AEC summer fellowship program in applied radiation protection at the National Reactor Testing Station. I have also completed the Radiological Monitoring for Instructors course at Battle Creek, Michigan.

Respectfully yours,

Charles E. McJilton  
Field Representative  
Division of Adult Education  
University of Idaho  
Moscow, Idaho

CEM:clb

**DUPLICATED**  
FOR DIV. OF COMPLIANCE



72543

13. Equipment For Handling Radiological Sealed Sources:  
One long-handled tongs CD V-788

Storage:

When source set is not in use in courses in the State of Idaho, it will be stored in the approved radiological material storage area in the University Engineering Laboratory, University of Idaho.

Transportation:

Transportation throughout the State of Idaho will be by automobile in back of station wagon or carry-all truck, observing standard radiological material transporting guidelines.

Storage Throughout the State of Idaho:

When source set is not in storage at the University of Idaho it will be:

1. locked in Civil Defense lead containers.
2. these containers will be locked in transportation vehicles.
3. transportation vehicles will be in maximum security.

14. Recommended Office of Civil Defense procedure will be used for:

1. initial check on receipt of an Office of Civil Defense training source set.
2. leak testing twice yearly as prescribed of the Office of Civil Defense source set.
3. replacement of rings and tags on sealed source sets *as needed*

15. None.

Form AEC-313 (2-57)	ATOMIC ENERGY COMMISSION <b>APPLICATION FOR BYPRODUCT MATERIAL LICENSE</b>		Form approved Budget Bureau No. 38-R072.3.
<p>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 two copies to: U. S. Atomic Energy Commission, P. O. Box E, Oak Ridge, Tenn. Attention: Isotopes Extension, Division of Civilian Application. 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>			
<p>1. (a) NAME AND STREET ADDRESS OF APPLICANT. (Institution, firm, hospital, person, etc.) University of Idaho Division of Adult Education Moscow, Idaho</p>		<p>(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1.(a).) At locations throughout the state of Idaho to be designated. Storage at the University of Idaho, University Engineering Laboratory (Approved Radioactive Material Storage Area)</p>	
<p>2. DEPARTMENT TO USE BYPRODUCT MATERIAL Division of Adult Education University Extension Civil Defense Program</p>		<p>3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.) None</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.) David G. Hanson, Coordinator</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.) George McKean</p>	
<p>6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.)  Cobalt 60</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.)  One Office of Civil Defense radiation source set # CD V-784 Six sealed sources of 5 millicuries each totalling 30 millicuries maximum.</p>		
<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 six sealed sources will be stored in one small lead container CD V-791 which in turn will be contained in one medium lead container CD V-792 with appropriate padlocks. This source set will be used in the training of Radiological Monitoring Instructors and Radiological Defense Monitors and in the use of Radiological instruction for Civil Defense purposes, in the State of Idaho. Source will be procured from OGD-DOD who will retain the title of the source material.</p>			

(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)	
			Yes	No	Yes	No
a. Principles and practices of radiation protection	See Attached Resume		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 Attached Resume				

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)
GD V-138	2	gamma	0-200 mr	30 mg/sq.	Personal Monitoring
GD V-700	1	gamma & beta	0-50 mr/hr		
GD V-715	1	gamma	0-500mr/hr	1000mg/cm <sup>2</sup>	cm Monitoring, surveying, and measuring Survey and training

11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE. Calibrating yearly in accordance with OGD. Recommend using:  $(mr/hr) = \frac{13.2x \text{ Go } 60 \text{ Activity (mc)}}{\text{distance}^2 \text{ (ft.)}}$

12. FILM BADGES, DOSIMETERS, AND BIO-ASSAY PROCEDURES USED. (For film badges, specify method of calibrating and processing, or name of supplier.)  
 Dosimeter GD V-138 0-50 mr Standard Civil Defense training dosimeter  
 Film badge for gamma and beta - Landauer Company or equivalent.

**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. **NONE**

**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: August 27, 1965

By: *Handwritten Signature*  
 K. A. Dick  
 Financial Vice President

G. A. McKean  
 Radiological Safety Officer

University of Idaho, Division of Adult Education

**RECEIVED**  
 AUG 24 1965  
 U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE  
 FEDERAL BUREAU OF SURVEILLANCE  
 MAIL STOP 100  
 BETHESDA, MARYLAND

WARNING: 10 CFR, Section 101.11, et al. of Title 25, U.S.C. Stat. 145, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States Government within its jurisdiction.

80 David G. Hanson  
 Coordinator  
 Division of Adult Education  
 University of Idaho  
 Moscow, Idaho

*Handwritten Signature*  
 Raymond K. Kooi  
 Director  
 Division of Adult Education  
 University of Idaho  
 Moscow, Idaho