

Form AEC-313  
(2-73)  
10 CFR 30

UNITED STATES ATOMIC ENERGY COMMISSION  
**APPLICATION FOR BYPRODUCT MATERIAL LICENSE**

Form approved  
Budget Bureau No. 38-20027

**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: Materials Branch, Directorate of 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, and the license fee provisions of Title 10, Code of Federal Regulations, Part 170. The license fee category should be stated in Item 16 and the appropriate fee enclosed. (See Note in Instruction Sheet).

1. (a) NAME AND STREET ADDRESS OF APPLICANT. (Institution, firm, hospital person, etc. Include ZIP Code and telephone number.)

L. Robert Kimball & Associates  
Consulting Engineers & Architects  
615 West Highland Avenue  
Ebensburg, PA 15931

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

Same for storage. Will be used at temporary job sites of licensee anywhere in the United States as required.

03/20  
17717

2. DEPARTMENT TO USE BYPRODUCT MATERIAL

Earth Sciences Department

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

37-17717-01 (for Nickel 63 sealed in ECD for gas chromatograph) 30 46053

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.)

McConnell, O.T. - Soils Lab Supervisor  
Thompson, C.W. - Technician  
Eckenrode, David - Engineering Tech.  
Brehm, Thomas - Soils Technician

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.)

Barbara Rae Hyde

6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.)

CS 137  
Am241:Be

(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.)

Sealed source - Troxler Dwg. # 102112 - 9 mCi  
Sealed source - Troxler Dwg. # 102451 - 40 mCi

per US  
license not  
issued.

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 use in Troxler Model 3411 Moisture-Density gauge to measure properties of construction materials

6505280495 850513  
REG1 LIC30  
37-17717-02 PDR

00584

## 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	See attached		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				

## 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)
None					

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

N/A

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

Film badges Type G from R.S. Landauer, Jr. & Co. (monthly monitoring of  
Glenwood Science Park all personnel plus mon-  
Glenwood, Illinois 60425 itoring of storage area)

## 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 See attached

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

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. sources to be returned to mfr.

## 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.

License Fee Category \$ 3L  
Fee Enclosed \$ \$110.00

L. Robert Kimball and Associates  
Applicant named in item 1

NOI1035 TIAH  
NOISSIWD  
039 04 000H'S

By Barbara Rae Hyde

Date 6/14/79

Environmental Biologist  
Title of certifying official

WARNING.—18 U. S. C., Section 1001; Act of June 26, 1948, 62 Stat. 549, 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 5: Radiation Safety Officer

Barbara Rae Hyde

Ms. Hyde currently serves as the Radiation Safety Officer for the Kimball firm, where she is responsible for radiation safety programs for a nickel 63 sealed source (NRC License 37-17717-01) and a Radium 226 sealed source (Pennsylvania License PA-251). In this capacity, she will continue supervision of the radiological safety monitoring program, performance of semi-annual leak testing, and assure that all equipment operators will follow manufacturers' instructions in storage, transport, and safe use of nuclear source equipment. She will also instruct operators as to security of instruments to be maintained during field use and precautions to be taken to avoid unnecessary exposure to radio activity.

As Radiation Safety Officer, Ms. Hyde will periodically inventory all nuclear source equipment, maintain records regarding use, leak testing, and the personnel monitoring program. She will also assure that source repair, replacement, and/or disposal will be carried out only by the manufacturer or another firm satisfactory to the NRC.

Ms. Hyde will be responsible for authorizing the use of the equipment by L. Robert Kimball personnel. No personnel, other than those whose names will appear as operators in the license, will be authorized to use the gauge without first attending a formal training program sponsored by Troxler Electronics Laboratories. A radiation safety briefing will also be given to all authorized personnel prior to field use of the equipment.

Item 8: Type of Training

McConnell, O.T.

Mr. McConnell has attended a formal two-day training course in use of nuclear moisture-density gauges sponsored by Troxler Electronic Laboratories, North Carolina. Seminar topics included all categories of "type of training" listed in Item 8. He is currently licensed as an operator for a Troxler Model 2401 gauge (Radium-225) by the Commonwealth of Pennsylvania.

Thompson, C.W.

Prior to joining the Kimball firm, Mr. Thompson received training in all aspects of radio activity measurement, radiological safety, and use of nuclear moisture-density equipment during employment with the Commonwealth of Pennsylvania. For the past five years, he has been a Pennsylvania licensed operator for a Troxler Model 2401 gauge.

Eckenrode, David

Mr. Eckenrode has recently completed the two-day training program sponsored by Troxler Electronic Laboratories, and has also been recently licensed by the Commonwealth of Pennsylvania to operate a Troxler Model 2401 gauge.

Brehm, Thomas R.

Mr. Brehm has attended a formal two-day training course sponsored by Troxler Electronic Laboratories. He is currently licensed by the Commonwealth of Pennsylvania to operate a Troxler Model 2401 gauge.

It should be noted that all personnel listed above have had significant on-the-job training in the use of such devices.

Item 13: Facilities and Equipment

The Troxler Model 3411 Nuclear Moisture-Density Gauge will be stored in an area of the Soils Laboratory building addition. The structure is concrete block with concrete floor. The storage area will be monitored for any radiation leakage via a Type G film badge. When not in use, the instrument will be stored and transported in an ABS case supplied by Troxler Electronic Laboratories (part no. 102106). Remote handling equipment, fume hoods, and shielding are not applicable. The storage area will be posted using conventional radiation color-coded (magenta on yellow background) labels, as will the storage case. See attached sketch of facilities.

Item 14: Radiation Protection Program

Leak testing procedures will be carried out as prescribed by the manufacturer. Wipe tests will be completed by the Radiological Safety Officer or a licensed operator at six (6) month intervals and will be submitted to Troxler Electronic Laboratories for radiation surveys. Source maintenance and/or replacement will be completed only by the manufacturer.

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ANO. 8505280495

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