



The Ohio State University

Office of Vice President
for Health Sciences

200 Health Sciences
Administration Center
370 West Ninth Avenue
Columbus, Ohio 43210

Phone 614 422-1815

June 14, 1985

Dr. Bruce Mallett, Chief
Regional Licensing Section
United States Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Dr. Mallett:

RECEIVED BY LFMS	
Date..	6/24/85
Log..	June - 18 - 111
By..	Jacques
Orig. To..	
Action Compl.	6/24/85

This letter is a request to amend The Ohio State University's broad scope, Byproduct Material License, No. 34-00293-02. The requested amendment is for permission to possess and use a Troxler Model 2401 surface moisture-density gauge containing a nominal 10 mCi Cs-137 sealed source and a nominal 50 mCi ^{241}Am -Be sealed source.

The Ohio State University received Amendment No. 58 to the above referenced license on February 4, 1985. That amendment authorized possession and use of a Troxler Series 3300 moisture gauge containing a 10 mCi sealed source of ^{241}Am -Be. Amendment No. 58 was deemed necessary because the proposed locations for use of the gauge were outside the boundaries of The Ohio State University, although within the boundaries of the State of Ohio.

The currently requested amendment is for use of a similar gauge, but with the added capability of performing soil density measurements, by the same personnel and at the same locations as specified in the application for Amendment No. 58. That application was enclosed with a cover letter dated November 30, 1984 from Dr. Manuel Tzagournis to Ms. B.J. Holt. In the interests of brevity, it seems desirable to incorporate by reference that letter, and the application enclosed with it, as a part of this application. The only information that is different from the earlier application is contained in items 6 and 13. Those changes are included below.

Item 6 - Materials

The gauge contains one sealed source of ^{241}Am -Be

FEE EXEMPT

170.11(a)(9)

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with a nominal activity of 50 mCi and one sealed source of ^{137}Cs with a nominal activity of 10 mCi. Both of these sources were manufactured per Troxler Drawing A-100281.

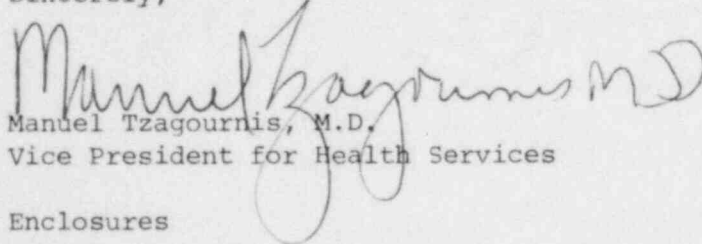
Item 13 - Facilities and Equipment

The surface moisture-density gauge will be stored in its shipping container and according to data provided by Mr. Michael Nunley of Troxler, the maximum combined neutron-gamma dose rate at one foot is 2.1 mrem/hr. The maximum dose rate at the bottom of the instrument, is 25 mrem/hr. Since this gauge will also be stored in Room N050D Hitchcock Hall and the combined rates are very low, there is no anticipated problem in achieving dose limits appropriate for an unrestricted area.

If this requested amendment is granted, the gauge will be transferred from the Buffalo Bomag Company, Koehring Road Division, located at 1210 Kenton St., Springfield, Ohio 45501. Their byproduct material license number is: 34-15926-01. Enclosed is a copy of the Radioactive Source Certificate from Troxler Laboratories, the previous Shipper's Certification for Radioactive Materials and the Form AEC-313 originally submitted by the current licensee.

Thank you for your attention to this requested licensing action.

Sincerely,



Manuel Tzagournis, M.D.
Vice President for Health Services

Enclosures

MT:ksp

cc: Walter E. Carey, Director, Office of Radiation Safety
Ronald L. St. Pierre, Associate Vice President of Health Services,
and Academic Affairs
George A. Kaye, Director, Health Services Facilities Planning

RADIOACTIVE SOURCE CERTIFICATE

Code	_____	Customer Number	B17800HAS
Source Number	_____	Code	64
Type	_____	Source Number	AC-4424
Type of Radiation	_____	Type	Cs/Am:Be
Activity	_____	Type of Radiation	Gamma/Neutron
Neutron Output	_____	Activity	7.8/50 mCi
		Neutron Output	1.3 x 10 ⁻⁵ NPS

Sources are encapsulated in stainless steel, Special Form Type A containers

DATE OF MEASUREMENT		8-29-73
WIPE TEST RECORD	Less than .005 micro-curies removable contamination.	WIPE TEST RECORD
_____	Sensitive wipe test negative	1-15-74
_____	Sensitive wipe test negative	_____
_____	Sensitive wipe test negative	_____

ORIGINAL USE

Enclosed in Model 2401, Serial No. 2658

Date Shipped 2-19-74

To Buffalo Bomag

Koehring Road Division

1210 Kenton St.

Springfield, Ohio 45501

Customer P. O. No. Verbal, License No. AEC 34-15926-01

W. O. No. 5135

RECOMMENDATIONS

1. Treat radioactive source with respect.
2. Do not touch with hands or body. Use tongs.
3. Do not expose to personnel.
4. Wipe test every six months.
5. If dropped, or struck, immediately wipe test.
6. Consult your Radiological Safety Officer on shipping, handling and surveillance procedures.
7. If questions arise contact Troxler Electronic Laboratories, Inc.
8. Wipe Test Kits available.

CLASSIFICATION OF RADIOACTIVE SOURCE

According to regulations of the Department of Transportation, this source is Special Form, Radioactive Yellow-II. Whenever shipped by public carrier, a special shipping label is required.


 RADIOLOGICAL SAFETY OFFICER

P. O. BOX 5997



Miles A. Hughes, Jr.
 RALEIGH, N. C. 27607 USA

Manufacturers of Surface Moisture, Surface Density, Depth Moisture, and Depth Density Equipment

SHIPPER'S CERTIFICATION FOR RADIOACTIVE MATERIALS
(to be completed in duplicate)

This is to certify that the contents of this consignment are properly described by name and are packed, marked and labelled and are in proper condition for carriage by air according to all applicable carrier and governmental regulations. (For international shipments add "and to the IATA Restricted Articles Regulations".) This consignment is within the limitations described for passenger/cargo carrying aircraft.

Name and address of Shipper or his authorized agent Robert W. Israel (Koehring BOMAG)

1311 Hampshire Lane, Richardson, Texas 75080

Date _____

(Signature)

The following information may be included here for each package of the consignment; if not, it must be given in other shipping documents.

NATURE AND QUANTITY OF CONTENT				PACKAGE		
RADIOISOTOPE	GROUP	FORM	ACTIVITY	CATEGORY	TRANSPORT INDEX	TYPE
NAME OF PRINCIPAL RADIOACTIVE CONTENT	GROUP NUMBER OF GROUPS I TO VII	EITHER CHEMICAL FORM PLUS GAS/LIQUID/SOLID, or SPECIAL FORM, or SPECIAL ENCAPSULATION	NUMBER OF CURIES, or MILLI-CURIES AS SPECIFIED	I - WHITE or II - YELLOW or III - Yellow LABEL	FOR YELLOW LABEL CATEGORY ONLY	INDUSTRIAL or TYPE A, or TYPE B
Radioactive Materials Special Form (N.O.S.) IATA Article #2129						
Cesium 137	III	Spec. Form Type "A"	10 mCi	II-Yellow	0.5	Type A
Americium 241: Beryllium	I	Spec. Form Type "A"	50 mCi	II-Yellow	0.5	Type A

ADDITIONAL INFORMATION IF REQUIRED

CONTROL NO. 7 9 2 0 2

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: 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.)

Koehring Road Division
1210 Kenton Street, P. O. Box 959
Springfield, Ohio 45501

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

Throughout the 50 States on various
construction projects.

2. DEPARTMENT TO USE BYPRODUCT MATERIAL

Sales Engineering

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

NONE

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.)

See attached sheet

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.)

Roger H. Cowden

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

Cesium-137/
Americium-241:
Beryllium

(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.)

10/50 mCi SEALED SOURCE as per Troxler drawing number
A-100281

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 a TROXLER MODEL 2401 surface Moisture/Density gauge.