



Museum
of
Fine Arts
Boston

465 Huntington Avenue
Boston
Massachusetts
02118
(617) 267-9300

30-00763

January 9, 1985

United States Nuclear Regulatory Commission
Material Licensing Branch
Division of Fuel Cycle and Material Safety
Washington, DC 20555

SUBJECT: NRC Materials License Number 20-13135-02
Reference Number 030-09399

Dear Sir:

Due to personnel changes we write to apply for the materials license number as above to be altered from 'Dr. L. van Zelst' as Radiation Protection Officer to 'Mrs. Pamela A. England'. I worked for three years as Dr. van Zelst's assistant until his departure.

We are continuing to have radiation surveys performed every 6 months by Bolton and Galanek Inc., (see enclosed recent survey).

Please note that our carbon-14 source has been transferred to NRC license 20-01537-02 (Bolton and Galanek).

At present we have two sealed sources, Am-241 and Sr-90, used in our thermoluminescence dating laboratory.

Sincerely,

P. A. England

Pamela A. England
Research Scientist

PAE:TT

85 JAN 16 AM 1:00

U.S. N. R. C.
JAN 21

8508120593 850725
REQ1 LIC30
20-13135-02 PDR

18563

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

See attached instructions for details.

Completed applications are filed in duplicate with the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety, and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.

a. NEW LICENSE

b. AMENDMENT TO:
LICENSE NUMBER

20-13135-02

c. RENEWAL OF:
LICENSE NUMBER

2. APPLICANT'S NAME (Institution, firm, person, etc.)

Pamela England

267-9300 617 465

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

3. NAME AND TITLE OF PERSON TO BE CONTACTED

REGARDING THIS APPLICATION

Pamela A. England

267-9300 617 465

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

4. APPLICANT'S MAILING ADDRESS (Include Zip Code)

(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)

Research Lab, Museum of Fine Arts
Boston, MA 02115

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED

(Include Zip Code)

Research Lab, Museum of Fine Arts
Boston, MA 02115

(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)

6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL

(See Items 16 and 17 for required training and experience of each individual named below)

FULL NAME

TITLE

a. Pamela A. England

Research Scientist

b.

c.

7. RADIATION PROTECTION OFFICER

Pamela A. England

Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.

8. LICENSED MATERIAL

L I N E	ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source)	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTI- VITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME
NO.	A	B	C	D
(1)	strontium 90 yttrium 90	sealed source	radiochemical center SIP-13	40
(2)	Americum 241	sealed source	radiochemical center AHR-3	0.1
(3)				
(4)				

DESCRIBE USE OF LICENSED MATERIAL
E

(1) Dating of pottery using thermoluminescence

(2)

(3)

(4)

Applicant

Check No.

Amount, Fee Category

Type of Fee

Letter Check No.

017540

\$120.3m *

Amendment

4/3/85

By: Brown

RECEIVED BY LFMB

Date 1/24/85

Log. Jan 13 1985

By: Brown

Orig. To: 1

Action Compl. 4/3/85

9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.
(1)			
(2)			
(3)			
(4)			

10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT A	MANUFACTURER'S NAME B	MODEL NUMBER C	NUMBER AVAILABLE D	RADIATION DETECTED (alpha, beta, gamma, neutron) E	SENSITIVITY RANGE (milliroentgens/hour or counts/minute) F
(1)		EBERLINE	E-120			
(2)						
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

<input type="checkbox"/> a. CALIBRATED BY SERVICE COMPANY NAME, ADDRESS, AND FREQUENCY BOLTON & GALANEK INC PO BOX 366, BOSTON MA 02139 ANNUALLY	<input type="checkbox"/> b. CALIBRATED BY APPLICANT Attach a separate sheet describing method, frequency and standards used for calibrating instruments.
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12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.) A	SUPPLIER (Service Company) B	EXCHANGE FREQUENCY C
<input checked="" type="checkbox"/> (1) FILM BADGE <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD) <input type="checkbox"/> (3) OTHER (Specify): _____	Landauer and company	<input checked="" type="checkbox"/> MONTHLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> OTHER (Specify): _____

13. FACILITIES AND EQUIPMENT (Check where appropriate and attach annotated sketch(es) and description(s).)

- ☐ a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC.
☐ b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC.
☐ c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.
☐ d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED

b. IF COMMERCIAL WASTE DISPOSAL SERVICE IS NOT EMPLOYED, SUBMIT A DETAILED DESCRIPTION OF METHODS WHICH WILL BE USED FOR DISPOSING OF RADIOACTIVE WASTES AND ESTIMATES OF THE TYPE AND AMOUNT OF ACTIVITY INVOLVED. IF THE APPLICATION IS FOR SEALED SOURCES AND DEVICES AND THEY WILL BE RETURNED TO THE MANUFACTURER, SO STATE.

**APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL**

See attached instructions for details.

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Pamela England

267-9300 617 465

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b.		
c.		

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Pamela A. England

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(2)						
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY

BOLTON + GALANEK INC
PO BOX 366, BOSTON MA 02139

ANNUALLY

☐ b. CALIBRATED BY APPLICANT

Attach a separate sheet describing method, frequency and standards used for calibrating instruments.

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BOLTON & GALANEK, INC.
Consultants - Radiochemistry & Health Physics

P.O. Box 366 M.I.T. Branch
Boston, MA 02139
Tel. (617) 253-2180

November 21, 1984

Boston Museum of Fine Arts
465 Huntington Avenue
Boston, MA 02115

Attention: Ms. Pam England

A radiation survey of your facility and wipe tests of your sealed radioactive sources were performed on October 16, 1984. No contamination was found on the bench in the radiation laboratory. The results of the wipe tests are enclosed. The Carbon-14 source was transferred to NRC license # 20-01537-02.

The Eberline E-120 survey meter equipped with a GM detector was recalibrated.

My next scheduled survey of your facilities will be April 1985. I will call you to set a date and time.

If you have any questions, please call me.

Mitchell Galanek

Mitchell Galanek
Health Physics Consultant
N.R.C. License # 20-13302-01

RECORD OF SEALED SOURCE LEAKAGE TEST *

I. Source Information:

1. Identification number	-----
2. Radionuclide	<u>C-14</u>
3. Activity	<u>10 mCi</u>
4. Half life	<u>5730 years</u>
5. Date of activity	-----

II. Schedule of leakage tests: 6 month intervals

III. Leak Test Results

<u>Date</u>	<u>Approx wipe</u>	<u>Wipe analysis</u>	<u>Results (uCi)</u>	<u>Comments</u>
10-26-83	200cm ²	beta	$<1.00 \times 10^{-5}$	No detectable activity
10-17-84	200cm ²	beta	$<1.00 \times 10^{-5}$	No detectable activity

SOURCE TRANSFERRED TO NRC LICENSE # 20-01537-02.

* Wipe tests performed under N.R.C. licensr # 20-13302-01

RECORD OF SEALED SOURCE LEAKAGE TEST *

I. Source Information:

1. Identification number	<u>R 3320</u>
2. Radionuclide	<u>Am-241</u>
3. Activity	<u>0.1 uCi</u>
4. Half life	<u>458 years</u>
5. Date of activity	<u>-----</u>

II. Schedule of leakage tests: 6 month intervals

III. Leak Test Results

<u>Date</u>	<u>Approx wipe</u>	<u>Wipe analysis</u>	<u>Results (uCi)</u>	<u>Comments</u>
10-26-83	100cm ²	alpha	1.80×10^{-4}	Shows signs of leakage
10-17-84	100cm ²	alpha	4.00×10^{-6}	No detectable activity

* Wipe tests performed under N.R.C. license # 20-13302-01

RECORD OF SEALED SOURCE LEAKAGE TEST *

I. Source Information:

1. Identification number	<u>SR40722089</u>
2. Radionuclide	<u>Sr-90</u>
3. Activity	<u>40 mCi</u>
4. Half life	<u>27.7 years</u>
5. Date of activity	<u>11-28-72</u>

II. Schedule of leakage tests: 6 month intervals

III. Leak Test Results

<u>Date</u>	<u>Approx wipe</u>	<u>Wipe analysis</u>	<u>Results (uCi)</u>	<u>Comments</u>
10-26-83	100cm ²	Beta	$<1.0 \times 10^{-5}$	No detectable activity
10-17-84	100cm ²	Beta	$<1.0 \times 10^{-5}$	No detectable activity

* Wipe tests performed under N.R.C. license # 20-13302-01

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