

Polaroid Corporation  
300 Fifth Avenue  
Waltham, Massachusetts 02254

 **Polaroid**

April 30, 1985

Ms Jenny M. Johansen, M.S.  
Nuclear Materials Section B  
U.S. Nuclear Regulatory Commission  
Region I  
631 Park Avenue  
King of Prussia, PA 19406

20-4626

Application	213891
Check No.	
Amendment	8/20/84
Type of Fee	Amendment
Date Check Recd	5/17/85
Received by	Brown

RECEIVED BY LFMB	
Date	5/17/85
Log	May 8 I
By	Brown
Orig. To	
Action Compl	5/20/85

License No. 20-02848-03

Dear Ms. Johansen:

By means of this letter, Polaroid Corporation requests the following amendments to its Byproducts Materials License No. 20-02848-03:

1. As the Radiation Safety Office has moved to a different Polaroid building, please change the mailing address (item 2) to:

Polaroid Corporation  
Radiation Safety Officer  
300 Fifth Avenue - 5 H  
Waltham, Massachusetts 02254

Please note that this change does not affect Condition 10 of the license.

2. Please change the telephone number of the Radiation Safety Office to 617-684-2827.
3. Please amend items 6, 7 and 8 to include the following isotopes:

<u>Byproduct</u>	<u>Physical Form</u>	<u>Maximum Amount</u>
a. Iodine-125	Any	Not to exceed a total of 50 millicuries
b. Cobalt-57	Sealed Source	Not to exceed a total of 10 millicuries

The iodine-125 will be used in biomedical research conducted in our radioisotope laboratory, as discussed in my letter to you dated May 9, 1984. Furthermore, the material will be used by, or under the direct supervision of, individuals listed on our license.

The cobalt-57 will be used in a research laboratory for investigation into the Mossbauer effect. The work will be done by an individual who has received appropriate radiation protection training and has been authorized by the Radiation Safety Officer to do this work.

"OFFICIAL RECORD COPY"

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20-02848-03 PDR

4. Please add the following locations to Condition 10:

- a. 21 Osborn St., Cambridge, Massachusetts, 02139  
This is a newly constructed research facility at which the Mossbauer effect work may be carried out.
- b. 38 Henry St., Cambridge, Massachusetts, 02139  
This is a research and development facility at which sealed sources may be used in the future, although no such work is planned at present.

5. As Polaroid no longer occupies the following locations, please remove them from Condition 10:

- a. 640 Memorial Drive, Cambridge, Massachusetts, 02139
- b. 1290 Main St., Waltham, Massachusetts, 02254

6. Please add the following individuals to Condition 12A:

- a. Henning Hachmann, PhD. Dr. Hachmann received his PhD in biochemistry from the University of Braunschweig.
- b. William Vetterling, PhD. Dr. Vetterling received his PhD in physics from Harvard University.

Summaries of their training and experience with ionizing radiation are attached.

7. Please remove Carl M. Berke from Condition 12A.

If further information is required, please do not hesitate to contact me at 617-684-2827.

Sincerely yours,

POLAROID CORPORATION

*Frances G. Forster*

Frances G. Forster, C.I.H.  
Radiation Safety Officer

FF/rc

Enclosure: Check \$120.00

cc: W.A. Burgess, H. Fatkin, H. Hachmann, W. Vetterling, S. Levin

POLAROID CORPORATION

APPLICATION FOR N.R.C. BYPRODUCT MATERIAL LICENSE (AMENDMENT)

WILLIAM T. VETTERLING, Ph.D. - SENIOR SCIENTIST

Item 17. Experience With Radiation				
Isotope	Max. Amt.	Where Experience Was Gained	Duration of Experience	Type of Use
Co-57	5 mCi	Harvard University	8 yrs	Mossbauer Effect
W-181	2 mCi	Harvard University	3 yrs	Mossbauer Effect
Fe-55	2 mCi	Harvard University	5 yrs	Calibration
Cs-137	2 mCi	Harvard University	8 yrs	Spectroscopy
Co-60	2 mCi	Harvard University	8 yrs	Spectroscopy
Na-22	2 mCi	Harvard University	8 yrs	Angular Correlation
Ra-Be	1 Ci	Harvard University	4 yrs	Neutron Activation

POLAROID CORPORATION

APPLICATION FOR N.R.C., BYPRODUCT MATERIAL LICENSE (AMENDMENT)

WILLIAM T. VETTERLING, Ph.D - SENIOR SCIENTIST

Item 16. Training and Experience in Radiation Safety				
Type of Training	Where Trained	Duration of Training	On The Job	Formal Course
a. Principles and Practices of radiation protection	1. Amherst College 2. Brookhaven Lab 3. Harvard University	1 yr 6 mo 10 yrs	No Yes Yes	Yes Yes Yes
b. Radioactivity measurement standardization and monitoring techniques and instruments.	1. Amherst College 2. Brookhaven Lab 3. Harvard University	1 yr 6 mo 10 yrs	No Yes Yes	Yes Yes Yes
c. Mathematics and calculations basic to the use and measurement of radioactivity.	1. Amherst College 2. Brookhaven Lab 3. Harvard University	1 yr 6 mo 10 yrs	No Yes Yes	Yes Yes Yes
d. Biological effects of radiation.	1. Amherst College 2. Brookhaven Lab 3. Harvard University	1 yr 6 mo 10 yrs	No Yes Yes	Yes Yes Yes

POLAROID CORPORATION

APPLICATION FOR N.R.C. BYPRODUCT MATERIAL LICENSE (AMENDMENT)

HENNING HACHMANN, PhD. - SCIENTIST

Item 17: Experience with Radiation				
Isotope	Max. Amt.	Where Experience Was Gained	Duration of Experience	Type of Use
P-32	500 $\mu$ Ci	Max Planck Institute of Experimental Medicine	2 years	Metabolite Labelling and Monitoring
C-14	500 $\mu$ Ci	Max Planck Institute of Experimental Medicine	4 years	Metabolite Labelling and Monitoring
H-3	5 mCi	Max Planck Institute of Experimental Medicine	4 years	Metabolite Labelling and Monitoring
I-125	5 mCi	Radiochemical Lab, Hoechst AG	7 years	Protein Labelling

Ph.D in biochemistry

2 years postdoctoral experience in molecular biology

7 years industrial experience in radioimmunology

POLAROID CORPORATION

APPLICATION FOR N.R.C., BYPRODUCT MATERIAL LICENSE (AMENDMENT)

HENNING HACHMANN, Ph.D - SCIENTIST

Item 16: Training and Experience in Radiation Safety

Type of Training	Where Trained	Duration of Training	On The Job	Formal Course
a. Principles and Practices of radiation protection	1. Center of Nuclear Research, Karlsruhe, Germany	2 weeks	NO	YES
b. Biological effects of radiation	1. Center of Nuclear Research, Karlsruhe, Germany	2 weeks	NO	YES
c. Radioactivity measurement standardization and monitoring techniques and instruments	2. University of Saarland, Germany	1 week	NO	YES
d. Responsibility for radiation safety	3. Dept. of Chemistry Max Planck Inst. of Experimental Medicine, Gottingen, Germany	3 years	YES	NO
	4. Research Group Radiochemical Laboratory, Hoechst AG, Frankfurt, Germany	7 years	YES	NO

Formal Course Work

1. Center of Nuclear Research Radiation Safety Course
2. University of Saarland Radioisotope Techniques in Analytical Chemistry

License Fee Management Branch  
Office of Administration

John E. Glenn, Chief  
Nuclear Materials Section B  
Division of Engineering and  
Technical Programs

Address Change

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: Polaroid Corporation

Application Dated: 4/30/85

Control No.: 03781

License No.: 20-02848-03

2. FEE ATTACHED

Amount: \$ 120.00

Check No.: 213891

3. COMMENTS

Signed Brenda Platchek

Date 5/13/85

03610

B. LICENSE FEE MANAGEMENT BRANCH

1. Fee Category and Amount: 3L #120

2. Correct Fee Paid. Application may be processed for:

Amendment ✓

Renewal       

License       

Signed Frances Braun

Date 5/17/85

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5/20/85



"SECTION COPY"

Polaroid Corporation

Cambridge, Massachusetts 02139

64-1327

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NO. 213891

DATE OF ISSUE		
MO.	DAY	YR.
05	06	85

PAY EXACTLY

\*\*\*\*\*120.00

PAY TO THE ORDER OF

U.S. NUCLEAR REGULATORY COMMISSION  
REGION ONE  
631 PARK AVE.  
KING OF PRUSSIA PA 19406

*Samuel R. Bedrosian*  
VICE PRESIDENT AND TREASURER

THE FIRST NATIONAL BANK OF ATLANTA  
ATLANTA, GEORGIA

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