

Raytheon

10 April 1987

U. S. Nuclear Regulatory Commission
Region I
613 Park Avenue
King of Prussia, PA 19406

Reference: License #20-20793-01
Docket #030-22081

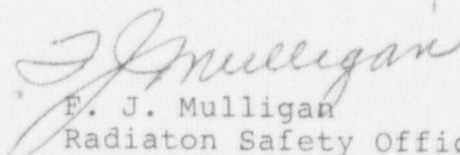
Dear Dr. Glenn:

I am requesting an amendment to item #12 of the referenced materials license. Additional personnel within our facility have recently received radiation safety training to enable them to safely operate a LIXISCOPE for which the referenced license was issued.

The training records and resumes for the following individuals are enclosed with this request; Timothy Toth, Ronald Patenaude, David Sweany, Everett Cole, Norma Berrios, Patricia Capra, Jacqueline Marshall and Diane Hubert. The Glennbrook Technologies Inc. Radiation Safety Course description is on file with the Commission under N. R. C. License 29-21464-01. Therefore a course description has not been included herein. The Plant Radiation Safety Program as submitted for the original license remains unchanged. Additionally, please designate Timothy C. Toth as Radiation Safety Officer instead of myself.

Please contact me if you require any additional information to process this request. Thank you.

Very truly yours,


E. J. Mulligan
Radiaton Safety Officer

8801050622 870615
REG1 LIC30
20-20793-01 PDR

"OFFICIAL RECORD COPY"

107286

ML10

19 MAY 1987

1987 MAY 18 AM 11:42

RECEIVED-REGION 1

License Fee Information
on Application

RECEIVED

'87 JUN -1 A9:24

U.S. NRC
LIC. FEE MGMT. BRANCH

FORM NRC-313 I (3-80) 10 CFR 30		U.S. NUCLEAR REGULATORY COMMISSION	
APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL		1. APPLICATION FOR: (Check and/or complete as appropriate)	
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 20-20793-01	
		c. RENEWAL OF: LICENSE NUMBER	
2. APPLICANT'S NAME (Institution, firm, person, etc.) <u>Raytheon Co.</u> TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION <u>617-458-7211</u>		3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION <u>Francis J. Mulligan, Radiation Safety Officer</u> TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION <u>617-458-7211</u>	
4. APPLICANT'S MAILING ADDRESS (Include Zip Code) (Address to which NRC correspondence, notices, bulletins, etc., should be sent.) <u>Box 740 Lowell, MA 01853</u>		5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED (Include Zip Code) <u>Woburn St, Lowell MA 01853</u>	
(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. Everett N. Cole		Q. A. Engineer	
b. Norma Berrios		P.C. Board Drill Operator	
c. Patricia Cupia		P.C. Board Drill Operator	
7. RADIATION PROTECTION OFFICER <u>F. J. Mulligan</u>		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 NO.	ELEMENT AND MASS NUMBER A	CHEMICAL AND/OR PHYSICAL FORM B	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source) C
			MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTI- VITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME D
(1)	Iodine-125	Sealed solid source.	500mCi maximum per device.
(2)			1000mCi total.
(3)			Amersham IMC.P2
(4)			or AECL C.324
DESCRIBE USE OF LICENSED MATERIAL E			
(1)	The radioactive material will be used in the Glenbrook models no.		
(2)	RT-112or RT-113 real time x-ray system (employing a lixi LS-82-X iso-fluoroscope) for the inspection of multi-layer printed circuit boards.		
(3)			
(4)			

Remitter June 41
 Check No. 32517
 Amount \$60.30
 Fee 3P
 Type of Fee Amendment
 Date Check 6/2/87
 Date Completed 6/2/87
 By Rick

FORM NRC-313 I (3-80) 10 CFR 30		U.S. NUCLEAR REGULATORY COMMISSION		
APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL		1. APPLICATION FOR: <i>(Check and/or complete as appropriate)</i>		
<i>See attached instructions for details.</i> 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.		b. NEW LICENSE b. AMENDMENT TO: LICENSE NUMBER <u>20-26793-01</u> c. RENEWAL OF: LICENSE NUMBER		
2. APPLICANT'S NAME <i>(Institution, firm, person, etc.)</i> <u>Raytheon Co.</u> TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION <u>617-458-7211</u>	3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION <u>Francis J. Mulligan Radiation Safety Dir.</u> TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION <u>617-458-7211</u>			
4. APPLICANT'S MAILING ADDRESS <i>(Include Zip Code)</i> <i>(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)</i> <u>Box 740 Lowell, MA 01853</u>	5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED <i>(Include Zip Code)</i> <u>Woburn St. Lowell, MA 01853</u>			
(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 <i>(See Items 16 and 17 for required training and experience of each individual named below)</i>				
FULL NAME	TITLE			
a. Timothy C. Toth	Health/Safety Specialist			
b. Ronald Patenaude	General Foreman			
c. David Sweany	Industrial Engineer			
7. RADIATION PROTECTION OFFICER <u>F. J. Mulligan</u>				
8. LICENSED MATERIAL				
LINE NO.	ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURER AND MODEL NUMBER <i>(If Sealed Source)</i>	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME
(1)	Iodine-125	Sealed solid source.		500mCi maximum per device.
(2)			Sealed sources model nos. ;	1000mCi total.
(3)			Amersham IMC.P2 or	
(4)			AECL C.324	
DESCRIBE USE OF LICENSED MATERIAL E				
(1)	The radioactive material will be used in the Glenbrook models no.			
(2)	RT-112or RT-113 real time x-ray system (employing a lixi LS-82-X iso-fluoroscope) for the inspection of multi-layer printed circuit boards.			
(3)				
(4)				

FORM NRC-313 I (3-80) 10 CFR 30		U.S. NUCLEAR REGULATORY COMMISSION		1. APPLICATION FOR: (Check and/or complete as appropriate)	
APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL				<input type="checkbox"/> a. NEW LICENSE	
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.				<input checked="" type="checkbox"/> b. AMENDMENT TO: LICENSE NUMBER <u>20-20793-01</u>	
				<input type="checkbox"/> c. RENEWAL OF: LICENSE NUMBER	
2. APPLICANT'S NAME (Institution, firm, person, etc.) <u>Raytheon Co.</u> TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION <u>617-458-7211</u>			3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION <u>Francis J. Mulligan, Radiation Safety Off.</u> 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.)			5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED (Include Zip Code)		
(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.	Jacqueline Marshall			P.C. Board Drill Operator	
b.	Diane Hubert			P.C. Board Drill Operator	
c.					
7. RADIATION PROTECTION OFFICER <u>F. J. Mulligan</u>			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					
LINE NO.	ELEMENT AND MASS NUMBER A	CHEMICAL AND/OR PHYSICAL FORM B	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source) C	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME D	
(1)	Iodine-125	Sealed solid source.		500mCi maximum per device.	
(2)			Sealed sources model nos. :	1000mCi total.	
(3)			Amersham IMC.P2 or		
(4)			AECL C.324		
DESCRIBE USE OF LICENSED MATERIAL E					
(1)	The radioactive material will be used in the Glenbrook models no.				
(2)	RT-112or RT-113 real time x-ray system (employing a lixi LS-82-X iso-fluoroscope) for the inspection of multi-layer printed circuit boards.				
(3)					
(4)					

FORMAL TRAINING IN RADIATION SAFETY AND EXPERIENCE

(Ref: USNRC 3131 Items 16 & 17)

This is to certify that the following individuals have attended the Glenbrook Technologies' Radiation Safety Course in accordance with the course descriptions on file with the US Nuclear Regulatory Commission (for lixiscope training).

Names (Type or Print in ink.)

Signatures

Timothy TOTH

Timothy TOTH

Company Name:

RAYTHEON Co

Address:

BOX 740

City, State, Zip:

Lowell, MA 01853

Telephone No.:

617-458-7211

A brief biography of the individuals listed above is attached. This also certifies that these individual(s) have personally operated a working iso-fluoroscope under supervision, in the aforementioned course.

The applicant and any instructor executing this certificate on behalf of the ___ person(s) listed above, certify that this document is prepared in conformity with Title 10, U.S. Code of Federal Regulations, and that all information contained herein is true and correct to the best of our knowledge and belief.

WARNING: 18 U.S.C., Sec. 1001; Act of 6/25/48: 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.

Certification by: Glenbrook Technologies, Inc.

Morris Plains, NJ 07950

U.S.N.R.C. Lic. No. 29-21464-01

Instructor: Gilbert Zweig

Gilbert Zweig

(signature)

Date training was completed on:

3/27/87

FORMAL TRAINING IN RADIATION SAFETY AND EXPERIENCE
(Ref: USNRC 3131 Items 16 & 17)

This is to certify that the following individuals have attended the Glenbrook Technologies' Radiation Safety Course in accordance with the course descriptions on file with the US Nuclear Regulatory Commission (for lixiscope training).

Names (Type or Print in ink.)

Signatures

Norma Berrios

Norma Berrios

Ronald Patenaude

Ronald Patenaude

David Sweany

David Sweany

Company Name: Raytheon Co.

Address: Box 740

City, State, Zip: Lowell, MA 01853

Telephone No.: 617-458-7211

A brief biography of the individuals listed above is attached. This also certifies that these individual(s) have personally operated a working iso-fluoroscope under supervision, in the aforementioned course.

The applicant and any instructor executing this certificate on behalf of the 3 person(s) listed above, certify that this document is prepared in conformity with Title 10, U.S. Code of Federal Regulations, and that all information contained herein is true and correct to the best of our knowledge and belief.

WARNING: 18 U.S.C., Sec. 1001; Act of 6/25/48: 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.

Certification by: Glenbrook Technologies, Inc.

Morris Plains, NJ 07950

U.S.N.R.C. Lic. No. 29-21464-01

Instructor: Gilbert Zweig

Gilbert Zweig
(signature)

Date training was completed on: 3/27/87

FORMAL TRAINING IN RADIATION SAFETY AND EXPERIENCE

(Ref: USNRC 3131 Items 16 & 17)

This is to certify that the following individuals have attended the Glenbrook Technologies' Radiation Safety Course in accordance with the course descriptions on file with the US Nuclear Regulatory Commission (for lixiscope training).

Names (Type or Print in ink.)

Signatures

Patricia Capra

Patricia Capra

Jacqueline Marshall

Jacqueline Marshall

Diane Hubert

Diane Hubert

Company Name: Raytheon Co.

Address: Box 740

City, State, Zip: Lowell, MA 01853

Telephone No.: 617-458-7211

A brief biography of the individuals listed above is attached. This also certifies that these individual(s) have personally operated a working iso-fluoroscope under supervision, in the aforementioned course.

The applicant and any instructor executing this certificate on behalf of the 3 person(s) listed above, certify that this document is prepared in conformity with Title 10, U.S. Code of Federal Regulations, and that all information contained herein is true and correct to the best of our knowledge and belief.

WARNING: 18 U.S.C., Sec. 1001; Act of 6/25/48: 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.

Certification by: Glenbrook Technologies, Inc.

Morris Plains, NJ 07950

U.S.N.R.C. Lic. No. 29-21464-01

Instructor: Gilbert Zweig

Gilbert Zweig
(signature)

Date training was completed on: 1/27/87

FORMAL TRAINING IN RADIATION SAFETY AND EXPERIENCE

Ref: NRC 313 I - Items 16 and 17

Item 16 - Training

This is to certify that the following individuals have attended the Lixiscope -Training Course in accordance with the Lixi, Inc. and S. A. Huber Consultant's Inc. course descriptions on file with the Nuclear Regulatory Commission:

Registry Number* (For Completion by NLR)	Names (Type or Print)	Signatures
000233	Everett N. Cole III	

The above individual(s) are to be added on to the following NRC license:

Name: Consolidated Design Inc.
Address: 937 North St.
City, State, Zip: Tewksbury, MA. 01876
Telephone #: (617) 453-1731

This training was completed on: Dec. 19, 1983 (Date)

Item 17 - Experience

A brief resume is attached for each individual to be covered under items 6 and 7 on form NRC 313 I. This also certifies that such individual(s) have personally operated a working Lixiscope, under supervision, in the aforementioned course.

The applicant and any instructor executing this certificate on behalf of the one person(s) listed above, certify that this document is prepared in conformity with Title 10, Code of Federal Regulations, and that all information contained herein, is true and correct to the best of our knowledge and belief.

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

Certified by: _____
Date: Dec. 10, 1983
Instructor Name: Gilbert Zweir
NLR Registry No.: 042
Under License No.: 79-21464-01

*NATIONAL LIXISCOPE REGISTRY

NRC License #12-17503-01 S. A. Huber Consultants, Inc.,
New Lenox, IL

Validated by: Stan A. Huber
Name: Stan. A. Huber
Title: President
Date: December 28, 1983

Rec'd
1-5-84

NOTE: This certificate is invalid unless countersigned by the NATIONAL LIXISCOPE REGISTRY and their registry numbers are assigned.

BETWEEN: C. James Holloway, Chief
License Fee Management Branch
Office of Resource Management

John E. Glenn, Chief
Nuclear Materials Safety & Safeguards Section B
Division of Radiation Safety and Safeguards

03022081

03124

1190

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

Applicant/Licensee: Raytheon Co.

Application Dated: 4-10-87

Control No.: 107286

License No.: 20-20793-01

2. FEE ATTACHED

Amount: \$60.00

Check No.: 32517

3. COMMENTS

Signed SLJ

Date 5-21-87

B. LICENSE FEE MANAGEMENT BRANCH

1. Fee Category and Amount: 3P \$60

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

Amendment ✓

Renewal

License

Signed S. Kumblerly

Date 6/3/87