

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.		<input type="checkbox"/> a. NEW LICENSE	
		<input checked="" type="checkbox"/> b. AMENDMENT TO: LICENSE NUMBER 45 - 2097 - 01	
		<input type="checkbox"/> c. RENEWAL OF: LICENSE NUMBER	
2. APPLICANT'S NAME <i>(Institution, firm, person, etc.)</i> AUTOMATA, INC. TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (703) 471-5110		3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION Christopher L. Scholbe R.S.O. TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (703) 471-5110 x 45	
4. APPLICANT'S MAILING ADDRESS <i>(Include Zip Code)</i> <i>(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)</i> 11091 Sunset Hills Road Reston, VA 22090		5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED <i>(Include Zip Code)</i> 11091 Sunset Hills Road Reston, VA 22090	
(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. Christopher L. Scholbe		R.S.O.; Supervisor, Multilayer	
b. Leslie Bainbridge		Production Manager	
c. Randall H. Fenwick		Supervisor, Drill Department	
7. RADIATION PROTECTION OFFICER Christopher L. Scholbe		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 <i>(If Sealed Source)</i> C
D	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTI- VITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME		
(1)	Iodine-125	Sealed solid source.	Lixi, Inc. Models LS-80-X, LS-82-X
(2)			Sealed sources model nos. ;
(3)			Amersham IMC.P2 or
(4)			AECL C.324
DESCRIBE USE OF LICENSED MATERIAL E			
(1)	The radioactive material will be used in the Lixiscope for		
(2)	the x-ray examination of electronic multi-layer printed circuit		
(3)	boards.		
(4)			

8510240634 850917
 REG2 LIC30
 45-20697-01

PDR

50664

INFORMATION REQUIRED FOR ITEMS 15, 16 AND 17

Describe in detail the information required for Items 15, 16 and 17. Begin each item on a separate page and key to the application as follows:

15. **RADIATION PROTECTION PROGRAM.** Describe the radiation protection program as appropriate for the material to be used including the duties and responsibilities of the Radiation Protection Officer, control measures, bioassay procedures (*if needed*), day-to-day general safety instruction to be followed, etc. If the application is for sealed source's also submit leak testing procedures, or if leak testing will be performed using a leak test kit, specify manufacturer and model number of the leak test kit.
16. **FORMAL TRAINING IN RADIATION SAFETY.** Attach a resume for each individual named in Items 6 and 7. Describe individual's formal training in the following areas where applicable. Include the name of person or institution providing the training, duration of training, when training was received, etc.
 - a. Principles and practices of radiation protection.
 - b. Radioactivity measurement standardization and monitoring techniques and instruments.
 - c. Mathematics and calculations basic to the use and measurement of radioactivity.
 - d. Biological effects of radiation.
17. **EXPERIENCE.** Attach a resume for each individual named in Items 6 and 7. Describe individual's work experience with radiation, including where experience was obtained. Work experience or on-the-job training should be commensurate with the proposed use. Include list of radioisotopes and maximum activity of each used.

18. CERTIFICATE

(This item must be completed by applicant)

The applicant and any official executing this certificate on behalf of the applicant named in Item 2, 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.

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.

a. LICENSE FEE REQUIRED
(See Section 170.31, 10 CFR 170)

b. CERTIFYING OFFICIAL (Signature)

c. NAME (Type or print)
Christopher L. Scholbe

(1) LICENSE FEE CATEGORY: 3P

d. TITLE
R.S.O.

(2) LICENSE FEE ENCLOSED: \$60.00

e. DATE
10 JULY 85

Street Address Where Licensed Material Will Be Used

Ref: NRC 313 I

Item 5

Materials will also be used at

Automata, Inc.
1200 Sevren Way
Sterling, VA 22170

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

Ref: NRC 313 I

Item 6 d

FULL NAME

Michael King

TITLE

Technician, Multilayer

FACILITIES AND EQUIPMENT

Ref: NRC 313 I

Item 13 b & c

Storage Facilities:

The lixiscopes defined in this application will be kept locked in their individual carrying cases (marked with "Caution Radioactive Material" labels), when not in use and stored in the lab area as shown on the attached sketch. This is a locked and secured area at the licensee's address. When the lixiscopes are in transit to temporary job sites, in the main plant area of our building, the lixiscopes will be kept locked in their individual carrying cases and under the supervision of the licensed users listed herein, until they are returned to the above designated storage area. Lixiscopes must be signed out and in by each licensed user so the location of the device(s) is accounted for at all times. The Radiation Safety Officer is responsible for these records being maintained on a current and complete basis and available for inspection at any time.

Containers and Special Shielding:

The lixiscopes are self shielded devices and there is no radiation above normal background (about 0.05 mr/hr) when the lixiscopes are in their carrying cases. The primary concerns are that the device must only be used by, or under the direct supervision of, trained and licensed users and that the lixiscopes be accounted for and secured at all times to prevent any unauthorized use, loss or theft of the device.

Remote Handling Equipment and Safety Procedures:

The Lixiscopes Instruction Manual directions will be followed. Remote handling devices, such as tongs or forceps, will be used when indicated to avoid any licensed user from ever placing their hands in the lixiscopes radiation beam.

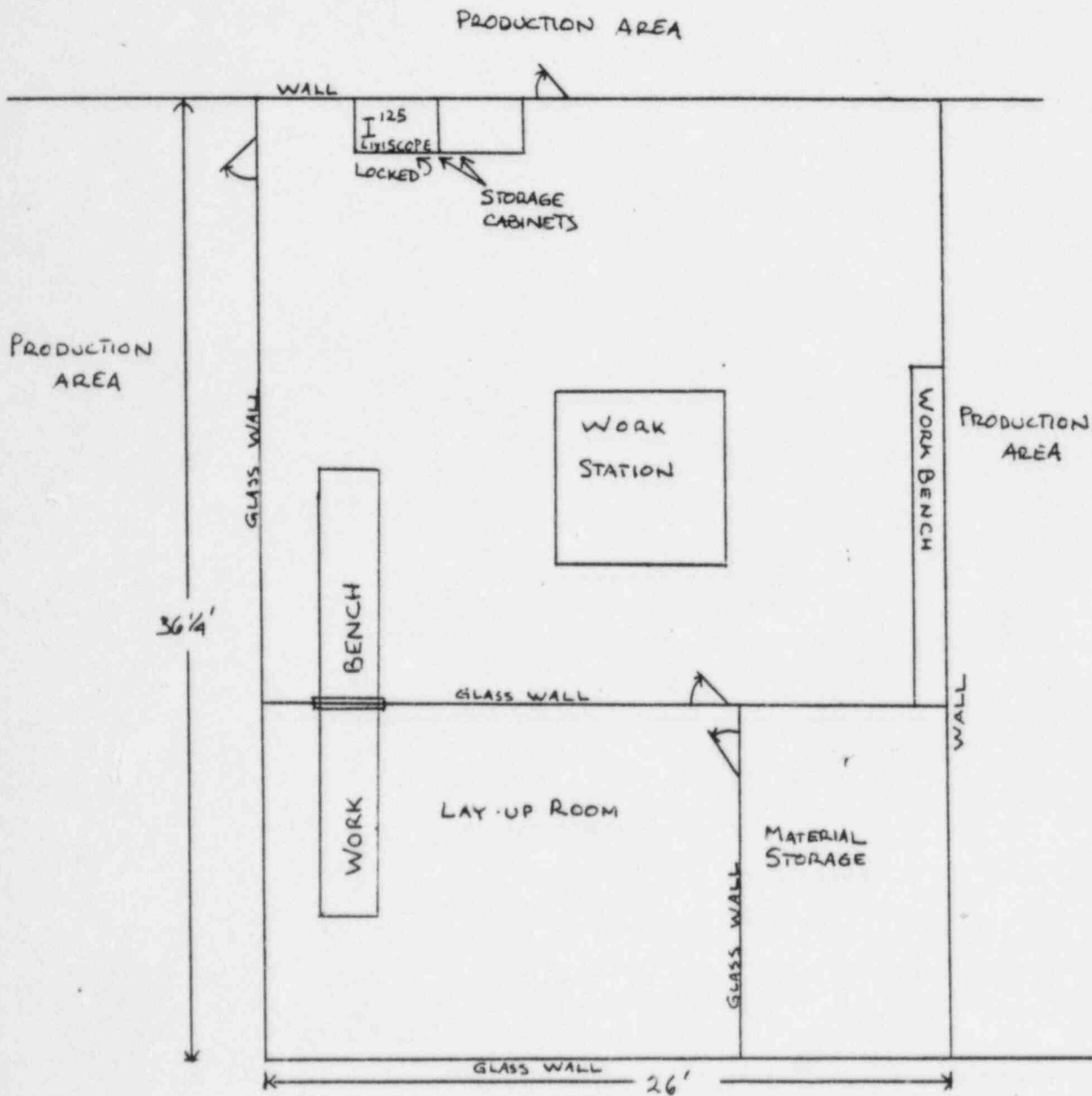
Survey measurements are taken by the manufacturer (Lixi, Inc.) prior to shipment and sent with the device. DOT White 1 labels are used for both original and return shipments of lixiscopes source heads. Lixi, Inc. shipping kit instructions will be followed for proper packing and labeling for return shipments.

Facility Sketch

Storage Area for Iodine-125 Lixiscope
As of July 10, 1985

Ref: NRC 313 I

Item 13 b (cont'd)



HALLWAY

1:0.45'

RADIATION PROTECTION PROGRAM
(for Lixiscope Operations)

Ref: NRC 313 I

Item 15

1. Radiation Surveys

Since the source of radiation in the Lixiscope and the radioactive material (low energy I-125) are well known and controlled, it is considered unnecessary to make physical radiation surveys. The initial certification of radiation survey of the loaded source holder (Lixiscope head) is provided with each unit and should be kept on file. These certificates give the original radiation readings of each Lixiscope in the "on" and "off" positions and those radiation levels become less as the I-125 sealed source decays, until the source is again eventually replaced.

2. Records Management Program

In addition to reviewing and keeping the radiation survey records for each Lixiscope, the Radiation Safety Officer (RSO) (listed in the facility's Lixiscope NRC license application or amendments) is responsible for maintaining the following records:

- a) Quarterly physical inventory of the Lixiscope(s). This condition can be met by maintaining the attached "Lixiscope Accountability and Source Exchange Record", if each Lixiscope is used at least once every 3 months or more frequently.
- b) Receipt, use and disposal records. The just described "Lixiscope Accountability and Source Exchange Record" has written instructions to properly record the original Lixiscope receipt and return, as well as subsequent source head receipt details and return dates.
- c) Personnel monitoring of extremities is recommended.
- d) Documentation of at least an annual radiation safety review of this written radiation protection program and the facility's Lixiscope license application and any amendments, shall be made by the RSO for all licensed users of the Lixiscope that are under his/her responsibility. Such a documented review shall also be performed with new trained personnel.
- e) License applications, amendment application copies and corresponding license and amendment documents shall be maintained in an organized manner for review at any time.

- f) Semi-annual leak test records for each I-125 source head must be maintained.

3. Semi-annual Leak Tests

The semi-annual leak tests are to be performed by using the "Leak Test Kit for Sealed Sources" from S.A. Huber Consultants, Inc. - 235 Essex Lane, New Lenox, IL 60451 and following the instructions with that kit. S.A. Huber Consultants, Inc. NRC license number is 12-17503-01. Their Leak Test kits and procedures are on file with the NRC Product Certification Branch.

4. Instructions to Personnel

In addition to the radiation safety instructions already specified in this written program, all personnel using the Lixiscope must have either attended the Lixiscope Training Program or received similar documented training, as indicated in item 2d of this safety program. In this manner, all users will be well aware of the needs to:

- a) Never leave the Lixiscope unattended or in an area where there is access by unauthorized personnel.
- b) Be completely familiar with the Lixiscope operating manual and safety precautions, "on" and "off" indicators, etc.
- c) Account for the Lixiscope at all times and return it after use to its locked storage area, which is posted with a "Caution Radioactive Material" sign.
- d) Be familiar with good radiation safety practices, ALARA philosophy, and to notify the Radiation Safety Officer (RSO) immediately if any questions or problems arise. The RSO can then call Lixi, Inc.; a nuclear consultant or the NRC, if any further assistance is needed.
- e) Emergency procedures, in the event of any fire, damage, loss or theft of the Lixiscope, the RSO is to be immediately notified at the phone number(s) listed below.
- f) Incoming radioactive shipments (source head exchanges) are to be immediately delivered to the RSO for proper checking and records maintenance as defined earlier herein. If any package is apparently damaged, the RSO will immediately arrange to have a calibrated survey meter delivered to check the outside package radiation level prior to opening and, if proper, to check the inside and Lixiscope readings after consulting with Lixi, Inc. or a nuclear consultant.

Radiation Safety Officer: 

Office Phone: _____

(703) 471-5110

Home Phone: _____

(703) 437-7218

LEAK TEST KIT

FACILITY _____

CITY _____ STATE _____

FEDERAL NRC LICENSE NO. _____

AGREEMENT STATE LICENSE NO. _____

RADIONUCLIDE _____

ACTIVITY _____ ON ORIGINAL CALIBRATION DATE _____

ORIGINAL CALIBRATION DATE _____

MANUFACTURER _____

MODEL NUMBER _____

SERIAL NUMBER _____

ANY OTHER DESCRIPTION _____

TEST DATE _____

SOURCES WIPED BY _____

NEXT TEST DUE _____

SAHCI STAN A. HUBER CONSULTANTS, INC.
235 ESSEX LANE □ NEW LENOX, ILLINOIS 60451

(815) 722 8009

Note any special billing or other instructions in the "Remarks" section on the back of this kit.

PREREQUISITES

- a) Follow any manufacturer instructions or specific license conditions for proper access and wipe testing of the sources.
- b) Use time, distance and shielding to reduce radiation exposure as low as reasonably achievable.
- c) Use rubber gloves & remote handling devices in handling or working near radiation source containers, or when working with any potentially contaminated materials.
- d) Wipe tests should only be performed by the licensed users, Radiation Safety Officer or their trained designates.

PROCEDURE

- 1) Place source behind shielding (if applicable) or check that direct radiation exposure is not possible.
- 2) Remove alcohol swab from packet to soak the "wet swab" cotton applicator.
- 3) Wipe all accessible surfaces of the source with wet swab. (Or nearest the source container, as applicable.)
- 4) Place wet swab cotton applicator in plastic sleeve marked "WET SWAB", seal open end. (Tape or staple)
- 5) Remove the "dry swab" cotton applicator and wipe all accessible surfaces of the source or container.
- 6) Place the "dry swab" cotton applicator in plastic sleeve marked "DRY SWAB" and seal open end.
- 7) Return source to storage (if applicable) or check that device is in proper safeguard mode.
- 8) Survey each swab with G-M survey meter. If reading is above normal background note this on back of kit and call Stan A. Huber Consultants, Inc. for further instructions.
- 9) Assuming the survey meter reading indicates no detectable activity, return kit to Stan A. Huber Consultants, Inc. in a standard size envelope.
- 10) You should receive the leak test certificate within 2 weeks after the sample kit is received by SAHCI. If not, please call our office.

FORMAL TRAINING IN RADIATION SAFETY AND EXPERIENCE

Ref: NRC 3131 - 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 course descriptions on file with the Nuclear Regulatory Commission:

Names (Type or Print)

Signatures

Christopher L Scholbe (RSO)

Christopher L Scholbe (RSO)

Randall H Fenwick

R. Fenwick

Leslie Bainbridge

Leslie Bainbridge

Michael King

Michael King

Company Name Automata, Inc.

Address 11091 Sunset Hills Rd.

City, State, Zip Reston, Virginia 22090

Telephone # (703) 471-5110

This training was completed on July 9, 1985 (Date)

Item 17 - Experience

A brief resume is attached for each individual to be covered under items 6 and 7 on form NRC 3131. 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 4 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.

Certification by:

The Glenbrook Company, Inc.
Morris Plains, New Jersey 07950
NRC Lic. No 29-21464-01

Instructor Gilbert Zweig

(type or print)

Gilbert Zweig
(signature)

Date July 9, 1985

RESUME

NAME: CHRISTOPHER L. SCHOLBE

HOME ADDRESS: 719 BIRCH CT
HERNDON, VA 22070

BIRTHDATE: 3/5/55

EDUCATION: BS, EARLHAM COLLEGE
MS, AMERICAN UNIVERSITY

ENROLLED IN PH.D. PROGRAM AMERICAN UNIVERSITY

EMPLOYMENT HISTORY: (Please include position and job responsibilities.)

AUTOMATA, INC.

- SUPERVISOR, LAMINAR
- SUPERVISOR, VACUUM
- SUPERVISOR, MULTILAYER (PRESENT) & RSO

IN ALL CASES, DIRECT SUPERVISION OF PERSONNEL,
DIRECTING WORKFLOW AND
MAINTAINING SAFETY STANDARDS.

RESUME

NAME: LESLIE BAINBRIDGE

HOME ADDRESS: 1010 25TH ST N.W #509
WASHINGTON, DC 20037

BIRTHDATE: 5-3-56

EDUCATION: 2 yrs UNDERGRADUATE STUDY - MEDICAL TECHNOLOGY DEGREE

EMPLOYMENT HISTORY: (Please include position and job responsibilities.)

JAN 1976 - PRESENT

AUTOMATA INC.

POSITION:

PRODUCTION MANAGER

- TRAINS AND COUNSELS SUPERVISORS
IN THE PRODUCTION OF
PRINTED CIRCUIT BOARDS.

- RESPONSIBLE FOR DAY SHIFT
PRODUCTION (ENSURES DELIVERY AND QUALITY)

RESUME

NAME: Randall H. Fenwick

HOME ADDRESS:

156-2B Laurel Way, Herndon, Va.

BIRTHDATE:

1-6-50

EDUCATION:

High School Diploma
2 years College

EMPLOYMENT HISTORY: (Please include position and job responsibilities.)

Automata, Inc.
Drilling supervisor

RESUME

NAME: Michael J. King

HOME ADDRESS: 6339 Landess St.
Alex. - VA. 22312

BIRTHDATE: April 30, 1963

EDUCATION: Potomac state college of the University of West. VA.
undergraduate

EMPLOYMENT HISTORY: (Please include position and job responsibilities.)

Trans circuits inc.

multilayer eng. tech.

Automata inc.

multilayer eng. tech.

RESUME

NAME *Michael L Smith*

CURRENT ADDRESS *7800 Fayloe Dr Lot 109*

DATE OF BIRTH *1-21-56*

EDUCATION *High School*

EMPLOYMENT HISTORY (PLEASE INCLUDE POSITION AND RESPONSIBILITIES)

Automata Drill Operator

Primary Multi-layer Operator

RESUME

NAME VINH KIM TRAN

CURRENT ADDRESS 1412 NORTHGATE SQ #12 B RESTON - VA. 22090

DATE OF BIRTH 02 - 08 - 1960

EDUCATION G.E.D

EMPLOYMENT HISTORY (PLEASE INCLUDE POSITION AND RESPONSIBILITIES)

AUTOMATA DRILL OPERATOR

BACK UP MultiLayer operator

RESUME

NAME *Richard Alan Pennington*

CURRENT ADDRESS *11401 Popes Head Rd. Fairfax, Va. 22030*

DATE OF BIRTH *3-12-59*

EDUCATION

G.E.D.

EMPLOYMENT HISTORY (PLEASE INCLUDE POSITION AND RESPONSIBILITIES)

Automata Drill operator

Back-up Multilayer operator