

## MATERIALS LICENSE

Amendment No. 04

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

301728

## Licensee

In accordance with application dated  
August 14, 19963. License Number 34-24887-01 is amended  
in its entirety to read as follows:

4. Expiration Date November 30, 2002

5. Docket or  
Reference No. 030-298096. Byproduct, Source, and/or  
Special Nuclear Material7. Chemical and/or Physical  
Form8. Maximum Amount that Licensee  
May Possess at Any One Time  
Under This License

A. Technetium-99m

A. Any

A. 200 millicuries

B. Iodine-131

B. Any

B. 3 millicuries

C. Gadolinium-153

C. Sealed sources  
(Isotope Product  
Laboratories  
Model 3410)C. Nine sources not  
to exceed 1 curie  
each

D. Gadolinium-153

D. Sealed sources  
(Isotope Product  
Laboratories  
Model 3411)D. Nine sources not  
to exceed 1 curie  
each

## 9. Authorized Use:

- A. To be used for instrument calibration and for the purpose of testing radiation imaging devices.
- B. To be used for gamma camera resolution, calibration, and testing as stated in letter dated October 20, 1995.
- C. For storage only.
- D. To be used for research, development and testing of gamma cameras.

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PDR ADOCK 03029809  
C PDR

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**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number

34-24887-01

Docket or Reference Number

030-29809

Amendment No. 04

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities located at 8037 Bavaria Road, Twinsburg, Ohio.
11. A. The Radiation Safety Officer for this license is Vitaliy Rappaport.  
B. Licensed material shall be used by, or under the supervision of, Chun Bin Lim, Ph.D., Bruce Koval and Vitaliy Rappaport.
12. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in 10 CFR 32.210.  
B. In the absence of a certificate from a transferor indicating that a leak test has been made within 6 months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.  
C. Sealed sources need not be leak tested if:
  - (i) they contain only hydrogen-3; or
  - (ii) they contain only a radioactive gas; or
  - (iii) the half-life of the isotope is 30 days or less; or
  - (iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or
  - (v) they are not designed to emit alpha particles, are in storage, and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.  
D. The leak test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(b)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region III, ATTN: Chief, Nuclear Materials Safety Branch, 801 Warrenville Road, Lisle, Illinois 60532-4351. The report shall specify the source involved, the test results, and corrective action taken.

COPY

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number  
34-24887-01

Tracket or Reference Number  
030-29809

Amendment No. 04

- E. Tests for leakage and/or contamination shall be performed by persons specifically licensed by the Commission or an Agreement State to Perform such services.
13. The licensee shall conduct a physical inventory every 6 months to account for all radioactive material received and possessed under the license. Records of inventories shall be maintained for 2 years from the date of each inventory.
14. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Applications dated March 10, 1987, April 25, 1992 and August 14, 1996; and
- B. Letters dated May 18, 1987, April 10, 1991, October 20, 1995 (with attachments) and October 1, 1996.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date Oct 9, 1996

By Richard B. Matton  
Nuclear Materials Licensing Branch, Region III

COPY

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM  
AND  
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)  
INFORMATION FROM LTS

PROGRAM CODE: 03221  
STATUS CODE: 0  
FEE CATEGORY: 3P  
EXP. DATE: 20021130  
FEE COMMENTS: IN HOUSE CALIBRATION  
DECOM FIN ASSUR REQD: N

R9

1996 AUG 19 PM 4:08

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED  
APPLICANT/LICENSEE: TRIONIX RESEARCH LABORATORY, INC.  
RECEIVED DATE: 960815  
DOCKET NO: 3029809  
CONTROL NO.: 301728  
LICENSE NO.: 34-24887-01  
ACTION TYPE: AMENDMENT

2. FEE ATTACHED  
AMOUNT: 300  
CHECK NO.: 003460

3. COMMENTS

SIGNED D. Hersey  
DATE 8-16-96

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED) ☒

1. FEE CATEGORY AND AMOUNT: 3P \$300

2. CORRECT FEE PAID. ☒ APPLICATION MAY BE PROCESSED FOR:  
AMENDMENT ☒  
RENEWAL ☐  
LICENSE ☐

3. OTHER

SIGNED SC  
DATE 8/23/96

AUG 26 1996

Log	<u>Aug 10 III</u>
Remitter	
Check No.	<u>3460</u>
Amount	<u>\$300</u>
Fee Category	<u>3P</u>
Type of Fee	<u>AmD</u>
Date Check Rec'd	<u>8/19/96</u>
Date Completed	<u>8/23/96</u>
By:	<u>SC</u>



(5-93)  
10 CFR 30, 32, 33  
34, 35, 36, 39 and 40

## APPLICATION FOR MATERIAL LICENSE

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 2 HOURS. SUBMITTAL OF THE APPLICATION IS NECESSARY TO DETERMINE THAT THE APPLICANT IS QUALIFIED AND THAT ADEQUATE PROCEDURES EXIST TO PROTECT THE PUBLIC HEALTH AND SAFETY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (INBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0120), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

## APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY  
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS  
U.S. NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001

## ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

## IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT. SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION  
NUCLEAR MATERIALS SAFETY BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA. SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
101 MARIETTA STREET, NW, SUITE 2900  
ATLANTA, GA 30323-0199

## IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN. SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION  
U. S. NUCLEAR REGULATORY COMMISSION  
REGION III  
901 WARRENVILLE ROAD  
LISLE, IL 60532-4351

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING. SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION  
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TX 76011-8064

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC. SEND APPLICATIONS TO:

RADIOACTIVE MATERIALS SAFETY BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION V  
1450 MARIA LANE  
WALNUT CREEK, CA 94596-5368

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

## 1. THIS IS AN APPLICATION FOR (Check appropriate item)

☐ A. NEW LICENSE  
☒ B. AMENDMENT TO LICENSE NUMBER  
☐ C. RENEWAL OF LICENSE NUMBER

A. NEW LICENSE

B. AMENDMENT TO LICENSE NUMBER 34-24887-01

C. RENEWAL OF LICENSE NUMBER

## 2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip code)

Trionix Research Lab.  
8037 Bavaria Rd  
Twinsburg, Ohio 44087

## 3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Same as step 2

## 4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Chun Lim  
Bruce KOVAL

## TELEPHONE NUMBER

(216) 425-9055

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL. a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time.	6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.
7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.	8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.
9. FACILITIES AND EQUIPMENT.	10. RADIATION SAFETY PROGRAM.
11. WASTE MANAGEMENT.	12. LICENSEE FEES (See 10 CFR 170 and Section 170.31) FEE CATEGORY 3P AMOUNT ENCLOSED \$300.00
13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 38 AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR 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.	

CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

Chun Lim President

SIGNATURE

Chun Lim

DATE

August 14, '96

## FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		RECEIVED
APPROVED BY				DATE	
					AUG 15 1996
					301728



August 14, 1996

United States Nuclear Regulatory Commission  
Region III  
801 Warrenville Road  
Lisle, IL 60532-4351

Amendment to License Number 34-24387-01

Re: Addition of Gd-153 to License and Change of Supervised Users

To Whom It May Concern:

This letter serves as a written request from Trionix Research Laboratory, Inc. to obtain an amendment to our license to add an additional radioisotope for our testing purposes and to pay the enclosed fee required of \$300.00.

I. In regard to our current license we request to add the following radioisotope: Gadolinium (Gd-153).

Maximum possession limit: 4500 mCi  
Source type: Capsule  
Purpose: Transmission Source Study

- A. Gd-153 will be available to use in capsule form in a carbon matrix.
- B. Gd-153 will be used in nuclear spect scanners. Gadolinium will be used in transmission source study, which is for attenuation correction. The Gadolinium (Gd-153), when mounted on the machine, will be put in a lead box (0.2" thick). This box has a lead door flap that opens when scanning and closes when not scanning.
- C. The maximum activity used per source will be 750 mCi.
- D. All containers will be labeled with the standard yellow radiation label and caution reading CAUTION-RADIOACTIVE MATERIAL. The Gd-153 will be stored in it's original lead shipping container and placed inside our locked leadvault when not in use.
- E. Inventory and leakage testing will be done semi-annually.
- F. Sources will be and logged out and logged in by user.
- G. We are planning use of three (3) sources of 750 mCi per source per machine for two (2) machines.

II. Because of change in company personnel, we would like to request to change names of users on the license.

TRIONIX RESEARCH LABORATORY, INC.

*pm 8-14-96*

8037 Bavaria Road • Twinsburg, Ohio • 44087 • Telephone: 216-425-9055 • FAX: 216-425-XXXX 9063

**RECEIVED**

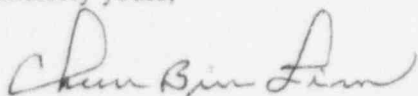
**AUG 15 1996**

**REGION III**

August 14, 1996

- A. We request removal of Roger Kump, Mark Johnson, and Raymond Wtulich from the license.
- B. Chun Lim will remain on the license
- C. We request to add Bruce Koval and Vitaliy Rappaport.
- D. The user names will be Chun Lim, Bruce Koval, and Vitaliy Rappaport.

Sincerely yours,



Chun Bin Lim, Ph. D.  
President

CBL/en

Enclosures: Application for Material License  
Check for \$300 payable to NRC  
NRC License  
Amendments (3)  
Nominal Line Source Data Sheet for Gadolinium

# NOMINAL LINE SOURCE DATA SHEET

Customer: Trionics Research

Date: 8 March 1996

P.O. Number: 15318

Catalog No.: HEGL-153-300M

Quantity: 1

Capsule Type/Part No.: 3410

Nature of Active Deposit: Gadolinium in Pyrrolyzed Resin Beads

Active Diameter/Length: 0.09"/18.0"

Total Diameter/Length: 0.12"/18.25"

Nuclide	Source No.	Activity	Ref. Date	Leak Test
Gd-153	GG-455	300 mCi	1 March 96	See Reverse

Leak Test information is on the reverse side

Impurities: Eu-152 & Eu-154 less than 0.001% as of 1 March 1996.

Remarks: Uniformity of 100 keV line is  $\pm 2\%$  of 1 cm centers and overall uniformity is  $\pm 5\%$  of entire active length.

Lab Book/Page 530-12



ISOTOPE PRODUCTS LABORATORIES  
3017 N. SAN FERNANDO BLVD.  
BURBANK, CALIFORNIA 91504  
818-843-7000 FAX 818-843-6168

*Steve J. Banks*  
20 Mar 96 Date, Signature



## MATERIALS LICENSE

Amendment No. 03

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee		In accordance with letter dated October 20, 1995	
1. Trionix Research Laboratory		3. License Number 34-24887-01 is amended in its entirety to read as follows:	
2. 8037 Bavaria Road Twinsburg, OH 44087		4. Expiration Date November 30, 1997	
		5. Docket or Reference No. 030-29809	
6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount that Licensee May Possess at Any One Time Under This License	
A. Technetium-99m	A. Any	A. 200 millicuries	
B. Iodine-131	B. Any	B. 3 millicuries	
9. Authorized Use			
A. To be used for instrument calibration and for the purpose of testing radiation imaging devices.			
B. To be used for gamma camera resolution, calibration, and testing as stated in letter dated October 20, 1995.			

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities located at 8037 Bavaria Road, Twinsburg, Ohio.
11. Licensed material shall be used by, or under the supervision of, Chun Bin Lim, Ph.D., Roger Kump, Mark Johnson or Raymond Wtulich.
12. The licensee shall conduct a physical inventory every 6 months to account for all radioactive material received and possessed under the license. Records of inventories shall be maintained for 2 years from the date of each inventory.

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License number

34-24887-01

Docket or Reference number

030-29809

Amendment No. 03

13. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Applications dated March 10, 1987 and April 25, 1992; and
- B. Letters dated May 18, 1987, April 10, 1991 and October 20, 1995 (with attachments).



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date

October 20, 1995

By

Camille Guzman  
Materials Licensing Section, Region III

NRC Form 374A  
(5-84)

U.S. NUCLEAR REGULATORY COMMISSION

PAGE 2 OF 2 PAGES

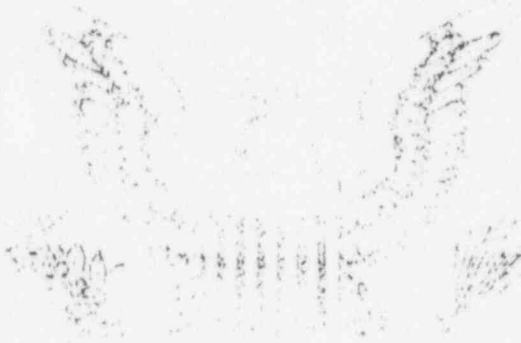
MATERIALS LICENSE  
SUPPLEMENTARY SHEETLicense number  
34-24887-01Docket or Reference number  
030-29809

Amendment No. 02

13. (Continued)

B. Letters dated May 18, 1987 and April 10, 1991 (with attachments).

NUCLEAR REGULATORY COMMISSION



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date

11/6/92

By

K. G. N. 11  
Materials Licensing Section, Region III

COPY

NRC FORM 374,  
(10-89)

U.S. NUCLEAR REGULATORY COMMISSION

PAGE 1 OF 2 PAGES  
Amendment No. 02

## MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 39, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

93377

## Licensee

1. Trionix Research Laboratory
2. 8037 Bavaria Road  
Twinsburg, OH 44087

In accordance with application dated  
April 25, 1992

3. License number 34-24887-01 is renewed  
in its entirety to read as follows:

4. Expiration date November 30, 1997

5. Docket or  
Reference No. 030-298096. Byproduct, source, and/or  
special nuclear material7. Chemical and/or physical  
form8. Maximum amount that licensee  
may possess at any one time  
under this license

A. Technetium-99m

A. Any

A. 200 millicuries

## 9. Authorized Use

- A. To be used for instrument calibration and for the purpose of testing radiation  
imaging devices.

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities located at  
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Ph.D., Roger Kump, Mark Johnson or Raymond Wtulich.
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inventories shall be maintained for 2 years from the date of each inventory.
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procedures contained in the documents including any enclosures, listed below. The  
Nuclear Regulatory Commission's regulations shall govern unless the statements,  
representations and procedures in the licensee's application and correspondence are  
more restrictive than the regulations.

- A. Applications dated March 10, 1987 and April 25, 1992; and

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C PDR

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ML  
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October 1, 1996

Nuclear Material Licensing Section  
United States Nuclear Regulatory Commission  
Region III  
801 Warrenville Road  
Lisle, IL 60532-4351  
Attn: Ms. Evelyn R. Matson  
Re: Control # 301728

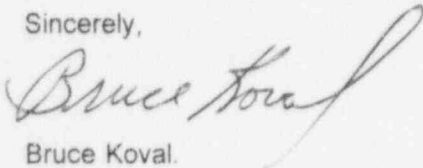
Dear Ms. Matson

We would like to make three changes to our most recent amendment, control number 301728. The changes are as follows.

1. Vitaliy Rappaport will be the Radiation Safety Officer. (R.S.O.). His background information ie: experience and education history was sent August 29, 1996 when this amendment was first initiated.
2. The Gadolinium (GD-153) 3410 source will be put into storage until it is approved and registered by the state of California.
3. We would like to add to the amendment, to have permission to use the GD-153 3411 source with the same limit as the 3410 of 9,000 mCi.

Thank you for your time and assistance. If you have any questions please feel free to call me. We are in urgent need to get this amendment processed.

Sincerely,



Bruce Koval

OCT 02 1996  
OCT 02 1996

TRIONIX RESEARCH LABORATORY, INC.

8037 Bavaria Road • Twinsburg, Ohio • 44087 • Telephone: 216-425-9055 • FAX: 216-425-9063



UNITED STATES NUCLEAR REGULATORY COMMISSION  
REGION III  
CONVERSATION RECORD

(X) TELEPHONE (X) OUTGOING ( ) INCOMING ( ) CONVERSATION

TIME: 11:30a

DATE: 9/18/96

NAME OF PERSON(S) CONTACTED:

ORGANIZATION:

TELEPHONE NO.:

Bruce Koval

Trionix Research Lab

216-425-9055

SUBJECT:

34-24887-01

Application for amendment dated August 14, 1996

SUMMARY:

The NRC needs the following additional information:

1. The training documents submitted for Bruce Koval do not reveal any formal training in radiation safety principles outlined in Item 4 of Supplement A. Without documentation of formal training, Mr. Koval does not meet our minimum criteria for RSOs. Therefore, you may name another person as RSO until Mr. Koval completes the necessary training. Please indicate the name of your proposed RSO. If the training and experience for that person has not already been submitted, please submit it now.
2. As discussed during our phone conversation, Isotope Products Lab, Model 3410, Gadolinium-153 source has not yet been registered and approved by the NRC or an Agreement State. Therefore, we cannot authorize you to use the source until the sealed source review is completed. Inform us if you want to keep the Model 3410 sources in storage only. We will add the sources to the license and designate them for storage only until the registration review is completed. When the review is completed by the State of California, we will amend the license to allow their use. Alternatively, if you wish to add the Model 3411 sealed source, please inform us. The model 3411 has been approved and registered as required and it can be added to your license for use.

ACTION REQUIRED:

Please respond in writing within 15 days, provide two copies of your response and refer to Control No. 301728.

ACTION TAKEN:

NAME OF PERSON DOCUMENTING CONVERSATION

SIGNATURE

DATE

Evelyn R. Matson



Sept 18, 1996

630-829-9822



August 29, 1996

Ms. Evelyn R. Matson  
Nuclear Material Licensing Section  
United States Nuclear Regulatory Commission  
Region III  
801 Warrenville Road  
Lisle, IL 60532-4351

Re: Control #301-728

Dear Ms. Matson:

I called Michael Devine at Isotope Products Laboratories to ask for information regarding 3410 Gadolinium (Gd-153) sources. He tried to find out if it was approved and if there was a registered number. We have waited a couple of days and he has not received any response to this request.

With this letter I am sending you two sets of the information Michael Devine has sent me, including sheets describing 3410 Gadolinium (Gd-153) sources. The 3410 sources are the same as the 3411 sources, except for the diameter of the sources. The 3411 diameter is 0.083" while the 3410 diameter is 0.120". The 3411 active diameter is 0.062" while the 3410 active diameter is 0.090". Both source types were submitted at the same time, but two different people handle each type of source. The 3411 source was approved quickly. The 3410 approval does not seem to be going anywhere. If you have any questions regarding the 3410 or 3411, call Michael Devine at Isotope Products (818) 843-7000, ext. 101 or call me at Trionix Research Laboratory (216) 425-9055.

We would also like to increase our limit on the license from 4,500 mCi to 9,000 mCi for the Gadolinium (Gd-153) source. This will allow us to order new sources when the old sources are reaching the end of their usefulness.

Also, attached are the sheets which you requested on the previous training and experience of our employees along with the Supplement A form.

Thank you for your time and assistance. If you have any questions, please feel free to call to me. We are still in urgent need to get this amendment processed.

Sincerely yours,

Bruce Koval  
Radiation Safety Officer

BK/en

Enclosures

RECEIVED  
AUG 30 1996  
REGION III

AUG 30 1996

TRIONIX RESEARCH LABORATORY, INC.

8037 Bavaria Road • Twinsburg, Ohio • 44087 • Telephone: 216-425-9055 • FAX: 216-425-9063

# IPL FAX

Date 8/27/96

Number of pages including cover sheet 12

TO: Bruce Koval  
Trionics

Phone (216) 425-9055  
Fax Phone (216) 425-9063

FROM: Michael Devine  
Isotope Products Laboratories  
1800 N. Keystone St.  
Burbank, CA 91504

Phone (818) 843-7000 x 101  
Fax Phone (818) 843-6168

CC:

REMARKS: ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please Comment

Following, please find a copy of the information and correspondence I sent to the State of California Department of Radiological Health, our licensing agency. After I spoke with you, I recieved a call from David Wesley who is now in charge of the Sealed Source and Device Sheet program at the State of California. He said he is trying to discover the status of the registration and will get it to us as soon as possible. I will call him again tomorrow to see what he has found. If you would like me to discuss the registration of the 3410 with your regulatory agency to help expedite things, I would be more than happy to do so.



January 16, 1996

Radiologic Health Branch  
Department of Health Services  
State of California  
Attn: Ben Kapel  
601 North 7th Street  
P.O. Box 942732  
Sacramento, CA 94234-7320

Dear Mr. Kapel,

We have recently fielded requests for Ga-153 sources with activities greater than 750 mCi. In expectation of future orders, we would like to increase the allowable activities of our A3410 line sources from 750 mCi to 1 Ci maximum. As the activity will fit within the source capsules without modification and without impact to safety, please apply the changes indicated on the following page of this letter to RRSS&D CA406182S.

If you have additional questions please feel free to call me at (818) 843-7000.

Sincerely,

Peter Hsueh  
Isotope Products Laboratories

Corporate and  
Gain Laboratory  
300 N. Keystone Street  
Furbank, California  
1504

18-843-7000  
x 818-843-6168

Amendment Letter  
January 16, 1996  
Page 2 of 2

Requested changes to RRSS&D CA406S182S

1. Change the Maximum activity of Gadolinium-153 from 750 mCi to 1 Ci.





September 22, 1995

Radiologic Health Branch  
Department of Health Services  
State of California  
Attn: Ben Kapel  
601 North 7th Street  
P.O. Box 942732  
Sacramento, CA 94234-7320

Dear Mr. Kapel,

Please find our application for registration of our model A3410 gamma gauging line source.

The Model A3410 is a singly encapsulated sealed source of various lengths ( 1 to 33 inches). The capsules are fabricated using 304 Stainless Steel or 304L Stainless Steel. Dimensions are 0.119 to 0.121 inches in diameter and 0.013" wall thickness. The radionuclide is in the form of an oxide or other salt in a ceramic or wire matrix. The capsules are sealed by fusion ( Tungsten Inert Gas or Electron Beam) welded plugs on both ends.

This source has been tested in accordance with ANSI N542-1977 to a classification of 77C654x4 was established, but we wish to register A3410 to a conservative classification of 77C33222.

The test report, drawing, and registration are included with this package in duplicate. I've also included a floppy disk with the registration file and test report in Wordperfect 5.1 format.

Regarding the drawing, you have IPL's permission to duplicate and distribute as required sheet 3 of drawing 3410.

If you have additional questions please feel free to call me at (818) 843-7000.

Sincerely,

Peter Hsueh



- IPL  
ISOTOPE  
ACTIVITY  
SERIAL NUMBER

ISOTOPE PRODUCTS LABORATORIES  
BURBANK, CALIFORNIA 91504

THIS COMPANY IS THE PATENTOR OF FORTREX PROTECTIVE LAMINATIONS. AND MAY NOT BE USED, REPRODUCED, OR DISCLOSED TO OTHERS WITHOUT EXPRESS WRITTEN PERMISSION FROM FORTREX PROTECTIVE LAMINATIONS.

## TEST REPORT FOR A3410 CAPSULE

Prototype A3410 sources were tested per ANSI N542-1977 such that a classification of 77C654x4 was established, but the A3410 will be registered to a conservative classification of 77C33222. Since inactive sources were used in the testing procedures and the internal void volumes of the capsules is greater than 0.1 ml, the high pressure water test per ANSI N542-1977 Appendix A paragraph A2.2.4 and the helium leak test per 49CFR173.469 were used to verify leak tightness. The test data is recorded in IPL notebook 437 pages 29 through 35.

Temperature: The sample sources were heated in air to a temperature of 800 degrees Centigrade within 30 minutes and left there for over one hour. The test capsules were allowed to cool then visually examined. The samples were then immersed in liquid Nitrogen ( $N_2$ ) for more than 20 minutes per table 2 of ANSI N542-1977. The same sample sources were again heated to 800 degrees Centigrade, held for more than 15 minutes and then, within 15 seconds, placed within a container of water, whose volume was more than 20 times the volume of the capsules, at a temperature of 20 degrees Centigrade. These tests accomplished high, low, and thermal shock tests per ANSI N542-1977 paragraph 7.2.2. Leak testing and visual inspections followed. The capsules were darkened from the high temperature test but no other visible damage was noted. Integrity and leak tightness were checked by the high pressure water test and the helium leak test, noted above.

External Pressure: The sources were placed into a vacuum/pressure chamber and subjected to two periods of high vacuum and 12000 PSI absolute under water. The high vacuum was less than 1 mm Hg absolute. There was no visible damage and the source integrity was verified as a consequence of running the test, ie there was no weight gain in the test sources after the high pressure water test.

Impact: The sources were placed upon a steel block and impacted with a 2 Kg weight dropped from at least one meter per ANSI N542-1977 paragraph 7.4.1(1). There was some bulging of the capsule due to slight flattening but no breach occurred. Leak testing by high pressure water and helium leak testing followed. The sources were found to be leak free.

Vibration: This source has not been vibration tested but based upon testing of sources of similar design and construction (see CA406S154S), a class 2 rating is warranted.

Puncture: The sources were impacted with a 50 gram hammer and pin assembly dropped from at least 1 meter. Leak testing followed. There was visible denting at the impact areas near the weld area where the impact occurred. Leak testing by high pressure water and helium leak testing followed. The sources were found to be leak free.

Given the results of the tests above, the A3410 capsule warrant a classification of 77C33222.

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES  
SAFETY EVALUATION OF SEALED SOURCE

NQ:

DATE: September 21, 1995

PAGE: 1 OF 6

SEALED SOURCE TYPE: Line Source

MODEL: A3410

MANUFACTURER/DISTRIBUTOR:

Isotope Products Laboratories  
1800 North Keystone Street  
Burbank, California 91504

(818) 843-7000

ISOTOPE:

MAXIMUM ACTIVITY

- a) Americium 241
- b) Any radionuclide with  
atomic numbers 3-83
- c) Gadolinium 153

- a) 300 mCi
- b) 300 mCi
- c) 750 mCi

LEAK TEST FREQUENCY: Six Months

PRINCIPAL USE: Gamma Gauges (D)

CUSTOM SOURCE: ☐ YES ☒ NO

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES  
SAFETY EVALUATION OF SEALED SOURCE

NQ:

DATE: September 21, 1995

PAGE: 2 OF 6

SEALED SOURCE TYPE: Line Source

DESCRIPTION:

The Model A3410 is a singly encapsulated sealed source of various lengths (1 to 33 inches). The capsules are fabricated using 304 Stainless Steel or 304L Stainless Steel. Dimensions are 0.119 to 0.121 inches in diameter, and 0.013" wall thickness. The radionuclide is in the form of an oxide or other salt as a ceramic of wire matrix. The capsules are sealed by fusion ( Tungsten Inert Gas or Electron Beam) welded plugs on both ends.

LABELING:

Each source is engraved with a symbol for the isotope, the nominal activity, "IPL", and a serial number.

DIAGRAM:

See drawing number A3410 on page 6.

CONDITIONS OF NORMAL USE:

These sources are intended to be permanently mounted in a gauging device. They should not be subjected to conditions exceeding those specified by the ANSI 77C33222 rating.

PROTOTYPE TESTING:

Prototype tests have shown the Model A3410 sources passed tests required for "Gamma gauges (medium and high energy)". The classification of ANSI 77C33222 was given in accordance with NBS Handbook No. 126, ANSI N.542, "Sealed radioactive Sources, Clasification", 1977. Capsule integrity was determined by the helium leak test (A.2.2.5) in which measured leakage rates were less than  $1 \times 10^{-8}$  cc/sec and by the pressurization test (A.2.2.4) in which the source is weighed before and after being placed in a chamber of pressurized water.



REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES  
SAFETY EVALUATION OF SEALED SOURCE

NO:

DATE: September 21, 1995

PAGE: 3 OF 6

SEALED SOURCE TYPE: Line Source

EXTERNAL RADIATION LEVELS:

The centerline exposure rate from a 300 millicurie source of 100 keV gamma/x-ray emitter, 33" long, is approximately 1 R/hr at 30 cm and 0.25 R/hr at 100 cm. these were determined using the formula on page 32 of the Radiological Health Handbook, 1970.

QUALITY ASSURANCE AND CONTROL:

Program: The general QA/QC program for sealed source manufacturing is incorporated in the specific license of the manufacturer. It contains all procedures for verification of incoming materials of construction and their assembly. A Summary of the acceptance testing for incoming isotopes was provided. Each source is tested for activity and integrity as specified below:

- a. Activity: Held to  $\pm 15\%$  of nominal activity
- b. Radiopurity: 97% or greater with respect to other nuclides; determined by gamma spectroscopy of original batch.
- c. Integrity: Sources are either leak tested according to the "Immersion With Boiling Test" taken from ANSI N542 1977 Appendix A A2.1.3, or the immersion test from the Appendix to ANSI N44.2-1973 "American National Standard for Leak Testing Radioactive Brachytherapy Sources." In addition, sources are also wipe tested with a moistened paper filter or cotton swab which is then assayed for contained activity. Acceptance criteria for both tests are:  
  - 1.0 nCi removable beta/gamma
  - 0.1 nCi removable alpha
- d. Assay procedures: A calibrated Ionization Chamber is used to measure the activity of the source.

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES  
SAFETY EVALUATION OF SEALED SOURCE

NO:

DATE: September 21, 1995

PAGE: 4 OF 6

SEALED SOURCE TYPE: Line Source

LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE

- a. Distribution: These sources shall be distributed to specific licensees of the NRC or Agreement States.
- b. Use: These sources are intended to be used in gauging systems utilizing a line source. These sources should not be subjected to conditions exceeding their ANSI N542-1977 rating of 77C33222.
- c. Handling: Remote handling tools and localized shielding should be used to avoid high dose rates near the surface of bare sources.
- d. Storage: Store in original shielded container or in assembled gauge (shielded) preferably in a dry area.
- e. Cleaning: use a tissue moistened with water and a little detergent or alcohol.
- f. Leak Test: These sources shall be tested for leakage and/or contamination at intervals not to exceed six (6) months. Such tests shall be able to detect 0.005  $\mu\text{Ci}$  of removable radioactive material, and be performed by specific licensees of the NRC or Agreement States.
- g. Disposal: Decayed or otherwise unusable sources must be disposed of in accordance with the licensee's disposal procedures (transfer to a specific licensee).
- h. This registration sheet and the information contained within the references shall not be changed without the written consent of the California Department of Health Services.

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES  
SAFETY EVALUATION OF SEALED SOURCE

NO:

DATE: September 21, 1995

PAGE: 5 OF 6

SEALED SOURCE TYPE: Line Source

SAFETY ANALYSIS SUMMARY:

Based on our review of the information and test data provided, we conclude that the Model A3410 line sources warrant an ANSI class of 77C33222 and are acceptable for licensing purposes.

REFERENCES:

The following supporting documents for the model A3410 line source are hereby incorporated by reference and made part of this registry document.

- a. NBS Handbook No. 126, "ANSI N.542, Sealed Radioactive Sources, Classification", 1977.
- b. ANSI N44.2 (for leak testing sealed sources), 1973
- c. Radiologic Health Handbook, pages 32-33, 1970.

DATE: \_\_\_\_\_ REVIEWED BY: \_\_\_\_\_

DATE: \_\_\_\_\_ CONCURRENCE: \_\_\_\_\_

Issuing agency: California Department of Health Services

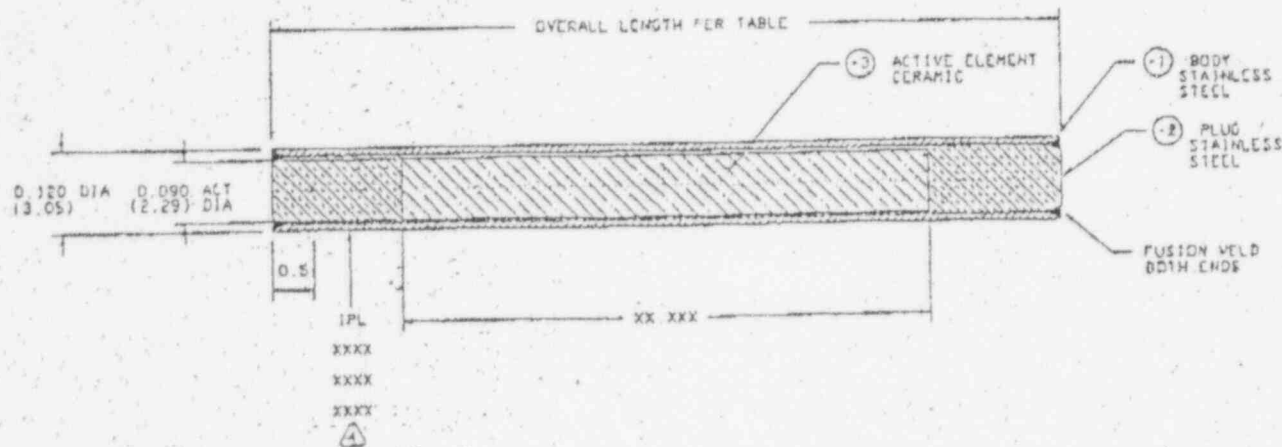
# REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES SAFETY EVALUATION OF SEALED SOURCE

NO:

DATE: September 21, 1995

PAGE: 6 OF 6

SEALED SOURCE TYPE: Line Source



5. PACKAGE AND IDENTIFY PART NUMBER THEREON  
ENGRAVE CHARACTERS 0.060 HIGH  $\pm$  0.003 DEEP MAX  
ON CIRCUMFERENCE, 1/2 INCH FROM EITHER END  
AND BLACK FILL

ISOTOPE  
ACTIVITY  
SERIAL NUMBER

3. TOLERANCES: 0.XXX  $\pm$  0.002, 0.XX  $\pm$  0.01, 0.X  $\pm$  0.1, ANGLE  $\pm$  0.5°

2. DIMENSIONS ARE IN INCHES

1. ASSEMBLE COMPLETE PER ENGINEERING DRAWING  
AND FUSION WELD AS REQUIRED

NOTE: UNLESS OTHERWISE SPECIFIED

THIS DRAWING IS THE PROPERTY OF ISOTOPE PRODUCTS LABORATORIES, AND NOT BE LOANED, REPRODUCED,  
PUBLISHED OR OTHERWISE DISSEMINATED WITHOUT AUTHORIZATION BY ISOTOPE PRODUCTS LABORATORIES.

P/N	PLUG LENGTH	OVERALL LENGTH	ACTIVE LENGTH
A3410-AXXXXX	0.040'	XX.XXX + 0.080'	XX.XXX'
A3410-BXXXXX	0.0625'	XX.XXX + 0.125'	XX.XXX'
A3410-CXXXXX	0.125'	XX.XXX + 0.250'	XX.XXX'
A3410-DXXXXX	0.090	XX.XXX + 0.196	XX.XXX'
A3410-EXXXXX	0.195'	XX.XXX + 0.390'	XX.XXX'

ISOTOPE PRODUCTS LABORATORIES BURBANK, CALIFORNIA 91504	
SCALE: NTS	APPROVED: <i>M. Davis</i> 5/23/94
DATE: 03/23/94	DESIGNED: JMD/RLT
TITLE: SINGLE ENCAPSULATED LINE SOURCES	REV/NO: -
SERIES: LINE SERIES	SHEET: 3 OF 4
	DRAWING NUMBER: 3410

JUL 1996 REGION 111

ID:708-515-1259

AUG 28 '96

9:46 No.005 P.04

EXHIBIT 2  
SUPPLEMENT A

## SUPPLEMENT

NUCLEAR REGULATORY COMMISSION

TRAINING AND EXPERIENCE  
AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF PROPOSED AUTHORIZED USER OR RADIATION SAFETY OFFICER <b>VITALY RAPPOPORT</b>		2. FOR PHYSICIANS, STATE OR TERRITORY WHERE LICENSED	
3. CERTIFICATION			
SPECIALTY BOARD <b>A</b>	CATEGORY <b>B</b>	MONTH AND YEAR CERTIFIED <b>C</b>	
<b>NUCLEAR PHYSICS</b>	<b>PH. D.</b>	<b>MAY 1980</b>	
4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES			
FIELD OF TRAINING <b>A</b>	LOCATION AND DATE(S) OF TRAINING <b>B</b>	TYPE AND LENGTH OF TRAINING <b>C</b>	
		CLOCK HOURS IN LECTURE OR LABORATORY	CLOCK HOURS OF SUPERVISED ON-THE-JOB EXPERIENCE
<b>LEBEDEV PHYSICS INST</b>	<b>MOSCOW, USSR, 1973-1980</b>		
<b>1. RADIATION PHYSICS AND INSTRUMENTATION</b>	<b>MOSCOW, USSR, 1973-1980</b>		
<b>2. RADIATION PROTECTION</b>	<b>MOSCOW, USSR, 1973-1980</b>		
<b>3. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY</b>	<b>MOSCOW, USSR, 1973-1980</b>		
<b>4. RADIATION BIOLOGY</b>	<b>MOSCOW USSR, 1973-1980</b>		
<b>5. RADIOPHARMACEUTICAL CHEMISTRY</b>	<b>MOSCOW USSR, 1973-1980</b>		
5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)			
ISOTOPE USED AT ONE TIME	EXPOSURE	TIME HOUR	TYPE OF USE
	<b><math>\alpha</math>, <math>\beta</math>, <math>\gamma</math> - radiation Ciklotron, accelerators</b>		

EXH-B

\*\*\*END\*\*\*



## Vitiliy Rappaport

Trionix	1993-1996 (3years)	CO57	50 uCi Button Source
		CO57	Sheet source 10mCi to 50mCi
		Tc99	Up to 60mCi sources Use from 500 uCi - 30mCi point sources use from 10mCi to 30 mCi flood pools
		Ga 67	500uCi to 30 mCi point sources
		Ga 67	10mCi to 30 mCi flood pools

PD in Physics,  
Experimental scientist, with previous experience working with high energy sources.

**Bruce Koval**

<b>Technicare</b>	1978-1987 (9years)	CO57	500 uCi Button Sources
		CO57	Sheet Source 10mCi to 30mCi
<b>Trionix</b>	1988-1996 (8years)	CO57	50 uCi Button Source
		CO57	Sheet source 10mCi to 50mCi
		Tc99	Up to 60mCi sources Use from 500 uCi - 30mCi point sources use from 10mCi to 30 mCi flood pools
		Ga 67	500uCi to 30 mCi point sources
		Ga 67	10mCi to 30 mCi flood pools

Also experienced in doing wipe test.

use of Delure wipe test counter.

Use of survey meter to check source in, and check hct lab and work area radiation.

Use Radioisotope calibrator daily.

Work under Chun Bin Lim, And previously under Mark Johnson's supervision.

Have received additional training with Anchali Krisanachinda.

2 Year Associate degree majoring in electronics from Lakeland Community College.  
(An accredited School).

UNITED STATES NUCLEAR REGULATORY COMMISSION  
REGION III  
CONVERSATION RECORD

(X) TELEPHONE (X) OUTGOING ( ) INCOMING ( ) CONVERSATION

TIME: 8:30a

DATE: 8/26/96

NAME OF PERSON(S) CONTACTED:

ORGANIZATION:

TELEPHONE NO.:

Bruce Koval

Trionix Research Lab

216-425-9055

SUBJECT:

34-24887-01

Application for amendment dated August 14, 1996

SUMMARY:

The NRC needs the following additional information:

1. Submit the training and experience for Bruce Koval and Vitaliy Rappaport. Documentation must demonstrate formal training in radiation safety principles outlined in Item 4 of Supplement A, attached. Documentation must demonstrate experience handling the type and quantity of material currently authorized on this license or equivalent experience, (Item 5 of Supplement A form).
2. 10 CFR 30.32(g) (copy attached) requires that a sealed source or device must be registered either with the Commission under 10 CFR 32.210 (copy attached) or with an Agreement State. Alternatively, you may submit the information required by 32.210(c). Therefore, please provide evidence that the sealed sources you requested are registered. Provide the registration number (example, CA-406-X-XXX) for the "Registry of Radioactive Sealed Sources & Devices, Safety Evaluation of Device".
3. It appears that your application requests the possession of six sources total. Please confirm if this is correct. In addition, your requested possession limit should include enough sources for concurrent possession of new and old sources during source replacements when you will be in possession of both new and old sources at the same time.

ACTION REQUIRED:

Please respond in writing within 15 days, provide two copies of your response and refer to Control No. 301728.

ACTION TAKEN:

NAME OF PERSON DOCUMENTING CONVERSATION

Evelyn R. Matson

630-829-9822

SIGNATURE



DATE

8/26/96

OCT 10 1996

Chun Bin Lim, Ph.D.  
Trionix Research Laboratory  
8037 Bavaria Road  
Twinsburg, OH 44087

Dear Dr. Lim:

Enclosed is Amendment No. 04 to your NRC Material License No. 34-24887-01 in accordance with your request.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region III office at (630) 829-9887 so that we can provide appropriate corrections and answers.

Please be advised that your license expires at the end of the day, in the month, and year stated in the license. Unless your license has been terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers; Inspections," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Notify NRC, in writing, within 30 days:
  - a. When the Radiation Safety Officer permanently discontinues performance of duties under the license or has a name change; or
  - b. When the licensee's mailing address changes (no fee is required if the location of byproduct material remains the same).
3. In accordance with 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license when you decide to terminate all activities involving materials authorized under the license.
4. Request and obtain a license amendment before you:
  - a. Change Radiation Safety Officers;

301728

- b. Order byproduct material in excess of the amount, or radionuclide, or form different than authorized on the license;
  - c. Add or change the areas of use or address or addresses of use identified in the license application or on the license; or
  - d. Change ownership of your organization.
5. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or certifying official rather than a consultant.

You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation, or imposition of a civil penalty, or an order suspending, modifying or revoking your license as specified in the General Policy and Procedures for NRC Enforcement Actions. Since serious consequences to employees and the public can result from failure to comply with NRC requirements, prompt and vigorous enforcement action will be taken when dealing with licensees who do not achieve the necessary meticulous attention to detail and the high standard of compliance which NRC expects of its licensees.

Sincerely,

Original Signed By  
Evelyn R. Matson  
Nuclear Materials Licensing Branch

License No.: 34-24887-01  
Docket No.: 030-29809

Enclosure: Amendment No. 04

DOCUMENT NAME: M:\03029809.CL6

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	DNMS/RIII <i>ERM</i>	<i>ju</i>							
NAME	ERMATSON:jaw								
DATE	10/9/96								

OFFICIAL RECORD COPY