

## MATERIALS LICENSE

Amendment No. 57

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 1, 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.

OFFICIAL RECORD COPY

## Licensee

1. Allegheny University Hospitals  
Elkins Park Division
2. 60 East Township Line Road  
Elkins Park, Pennsylvania 19027

In accordance with the letter dated  
June 2, 1997,  
3. License Number 37-04172-01 is amended in  
its entirety to read as follows:

4. Expiration Date September 30, 2005

5. Docket or  
Reference No. 030-03036

6. Byproduct, Source, and/or  
Special Nuclear Material

- A. Any byproduct material  
identified in 10 CFR  
35.100
- B. Any byproduct material  
identified in 10 CFR  
35.200
- C. Any byproduct material  
identified in 10 CFR  
35.300
- D. Any byproduct material  
identified in 10 CFR  
35.500
- E. Any byproduct material  
identified in 10 CFR  
31.11
- F. Americium 241

7. Chemical and/or Physical  
Form

- A. Any radiopharmaceutical  
identified in 10 CFR  
35.100
- B. Any radiopharmaceutical  
identified in 10 CFR  
35.200 except generators
- C. Any radiopharmaceutical  
identified in 10 CFR  
35.300
- D. Any diagnostic source  
identified in 10 CFR  
35.500
- E. Prepackaged Kits
- F. Sealed source (Amersham  
Model No. AMC. 24)

8. Maximum Amount that Licensee  
May Possess at Any One Time  
Under This License

- A. As needed
- B. As needed
- C. 1000 millicuries
- D. .05 curies
- E. 3.0 millicuries
- F. 14 millicuries

## 9. Authorized use

- A. Any uptake, dilution and excretion procedure approved in 10 CFR 35.100.
- B. Any imaging and localization procedure approved in 10 CFR 35.200.
- C. Any radiopharmaceutical therapy procedure approved in 10 CFR 35.300.
- D. Medical use of sealed sources approved in 10 CFR 35.500 in compatible devices registered pursuant to 10 CFR 30.32(g).
- E. In vitro studies.
- F. Use as an anatomical marker.



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PDR ADDC 03003036  
C PDR

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MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License Number

37-04172-01

Docket or Reference Number

030-03036

Amendment No. 57

## CONDITIONS

10. Licensed material may be used only at the licensee's facilities located at 60 East Township Line Road, Elkins Park, Pennsylvania.
11. The Radiation Safety Officer for this license is Mark Krakovitz, M.D.
12. Licensed material listed in Item 6 above is only authorized for use by, or under the supervision of, the following individuals for the materials and uses indicated:

Authorized UsersMaterial and Use

Stephen J. Munzer, M.D.

35.100; 35.200; 35.300; 35.500

In vitro studies  
Americium 241

Richard B. Levine, M.D.

35.100; 35.200; 35.500

In vitro studies  
Americium 241

Mark Krakovitz, M.D.

35.100; 35.200; 35.300; 35.500

In vitro studies

John Matthews, M.D.

35.100; 35.200; 35.300; 35.500

In vitro studies

Paul G. DuPont, M.D.

35.100; 35.200; 35.500

In vitro studies

Robert J. Killian, M.D.

35.100; 35.200; 35.300; 35.500

In vitro studies

Christopher Meoli, D.O.

35.100; 35.200; 35.500

Iodine 131 for the treatment of hyperthyroidism  
and cardiac dysfunctionIn vitro studies

13. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d), 40.36(b), and 70.25(d) for establishing financial assurance for decommissioning.
14. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number

37-04172-01

Docket or Reference Number

030-03036

Amendment No. 57

15. 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, except for minor changes in the medical use radiation safety procedures as provided in 10 CFR 35.31. The U.S. 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. Application dated March 30, 1995
- B. Letter dated July 18, 1995
- C. Facsimile received August 9, 1995
- D. Letter dated June 2, 1997

Date JUL - 1 1997

For the U.S. Nuclear Regulatory Commission

**ORIGINAL SIGNED BY:**

By **TARA L. WEIDNER**

Nuclear Materials Safety Branch

Region I

King of Prussia, Pennsylvania 19406

JUL - 1 1997

Katie Farrell  
Vice President, Administrative Affairs  
Allegheny University Hospitals  
Elkins Park Division  
60 East Township Line Road  
Elkins Park, PA 19027

Dear Ms. Farrell:

This refers to your license amendment request. Enclosed with this letter is the amended license. Please note that as part of this amendment, in accordance with 10 CFR 30.36, effective February 15, 1996, the expiration date of your license has been extended by a period of five years. Your new expiration date is stated in Item 4 of the license.

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5093 or 5239, so that we can provide appropriate corrections and answers.

Thank you for your cooperation.

Sincerely,

**ORIGINAL SIGNED BY:**  
**TARA L. WEIDNER**

Tara L. Weidner  
Division of Nuclear Materials Safety

License No. 37-04172-01  
Docket No. 030-03036  
Control No. 124637

Enclosure:  
Amendment No. 57

OFFICIAL RECORD COPY

ML 10

DOCUMENT NAME: R:\WPS\MLTR\L3704172.01

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	<input checked="" type="checkbox"/> N	DNMS/RI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NAME	Weidner <i>jlw</i>						
DATE	06/17/97		06/ /97		06/ /97		06/ /97

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ALLEGHENY  
UNIVERSITY  
HOSPITALS  
ELKINS PARK

60 E. Township Line Road  
Elkins Park, PA 19027  
215-663-6000

030-03036

June 2, 1997

Mohammed Shanbaky  
Nuclear Materials Safety Branch  
Division of Nuclear Materials Safety  
U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406-1415

**Re: NRC License 37-04172-01**

Dear Mr. Shanbaky:

We would like to amend our NRC license 37-04172-01 as follows:

- Change institution name from "Medical College of Pennsylvania and Hahnemann University, Elkins Park Hospital" to "Allegheny University Hospitals, Elkins Park Division." This is a simple name change and no change of ownership, place of usage, equipment, procedures, nor prior commitments made to the NRC are affected.
- Drop the following from license effective June 30, 1997:
  - Dr. Alan Maurer
  - Dr. Howard A. Levy
  - Dr. Harry J. Lessig (current Radiation Safety Officer and Chairman of the Radiation Safety Committee)
- Add Dr. Mark Krakovitz, as both an authorized user and the new Radiation Safety Officer. He is currently an authorized user under NRC license #37-02562-01 (Allegheny University Hospitals, MCP Division) and has certification from the American Board of Radiology.
- Add the following as authorized users:
  - Dr. John Matthews
  - Dr. Paul G. DuPont
  - Dr. Robert J. Killian
  - Dr. Christopher Meoli

124637

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ML 10

JUN - 5 1997



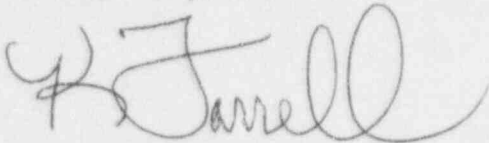
Page Two  
Mohammed Shanbaky

These physicians are all currently authorized users under NRC license #37-18263-01 (Allegheny University Hospitals - Bucks County Division). They are certified by the American Board of Radiology, except for Dr. Meoli who is certified by the American Osteopathic Board of Radiology. Appropriate documentation is enclosed.

- Add Dr. Theodore Villafana, Ph.D. as the new Chairman of the Radiation Safety Committee. Dr. Villafana currently serves as the institutional Radiation Safety Officer for the Allegheny University of the Health Sciences (NRC license # 37-02562-01 among others).

We anticipate the new authorized users, the new Radiation Safety Officer, and the new chairman of the Radiation Safety Committee to assume responsibilities effective July 1, 1997. Therefore, we wish to seek timely approval for this amendment request in order to remain in compliance with our license.

Yours truly,



Katie Farrell  
Vice President,  
Administrative Services

Encl: \$440 check  
Preceptor statements

cc: Richard B. Levine, M.D.  
Theodore Villafana, Ph.D.  
Fong Y. Tsai, M.D.

# PRECEPTOR STATEMENT

Approved by Unit  
3160-0041  
Revised 6-20-88

Supplement B must be completed by the applicant physician's preceptor. If more than one preceptor is necessary to document experience, obtain a separate statement from each.

## 1. APPLICANT PHYSICIAN'S NAME AND ADDRESS

FULL NAME

11/ak Krakovitz M.D.

STREET ADDRESS

7609 Burk Ave.

CITY

margate

STATE ZIP CODE

N.J. 08402

## KEY TO COLUMN C

PERSONAL PARTICIPATION SHOULD CONSIST OF:

- 1-Supervised examination of patients to determine the suitability for radionuclide diagnosis and/or treatment and recommendation for procedure design.
- 2-Collaboration in dose calibration and actual administration of dose to the patient including calculation of the radiation dose, related measurements and plotting of data.
- 3-Adequate period of training to enable physician to manage radioactive patients and follow patients through diagnosis and/or course of treatment.

## 2. CLINICAL TRAINING AND EXPERIENCE OF ABOVE NAMED PHYSICIAN

ISOTOPE A	CONDITIONS DIAGNOSED OR TREATED B	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION C	COMMENTS (Additional information or comments may be submitted in duplicate on separate sheet.) D
I-131 or I-125	DIAGNOSIS OF THYROID FUNCTION	500	
	DETERMINATION OF BLOOD AND BLOOD PLASMA VOLUME		
	LIVER FUNCTION STUDIES		
	FAT ABSORPTION STUDIES		
	KIDNEY FUNCTION STUDIES	400	
	IN VITRO STUDIES		
OTHER			
I-125	DETECTION OF THROMBOSES	200	
I-131	THYROID IMAGING	500	
P-32	EYE TUMOR LOCALIZATION		
Sc-75	PANCREAS IMAGING		
Yb-169	CISTERNOGRAPHY		
Xe-133	BLOOD FLOW STUDIES AND PULMONARY FUNCTION STUDIES	600	
OTHER			
Tc-99m	BRAIN IMAGING	500	
	CARDIAC IMAGING	1000	
	THYROID IMAGING	500	
	SALIVARY GLAND IMAGING	5	
	BLOOD POOL IMAGING	1000	
	PLACENTA LOCALIZATION		
	LIVER AND SPLEEN IMAGING	1000	
	LUNG IMAGING	800	
	BONE IMAGING	1000	
OTHER			



# PRECEPTOR STATEMENT (Continued)

## 2. CLINICAL TRAINING AND EXPERIENCE OF ABOVE NAMED PHYSICIAN (Continued)

ISOTOPE A	CONDITIONS DIAGNOSED OR TREATED B	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION C	COMMENTS (Additional information or comments may be submitted in duplicate on separate sheets.) D
P-32 (Sodium)	TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA, AND BONE METASTASES	3	
P-32 (Colloid)	INTRACAVITARY TREATMENT	5	
I-131	TREATMENT OF THYROID CARCINOMA	10	
	TREATMENT OF HYPERTHYROIDISM	15	
Au-198	INTRACAVITARY TREATMENT		
Co-60 or Cs-137	INTERSTITIAL TREATMENT		
	INTRACAVITARY TREATMENT		
I-125 or Ir-192	INTERSTITIAL TREATMENT		
	TELETHERAPY TREATMENT		
Sr-90 or Cs-137	TREATMENT OF EYE DISEASE		
	RADIOPHARMACEUTICAL PREPARATION		
Mo-99/ Tc-99m	GENERATOR	20	
Sr-113/ In-113m	GENERATOR		
Tc-99m	REAGENT KITS	50	
Other			
Tl-201	Stress myocardial imaging	1000	

## 3. DATES AND TOTAL NUMBER OF HOURS RECEIVED IN CLINICAL RADIOISOTOPE TRAINING

Two-year nuclear medicine residency - Div of Nuclear Medicine  
7/86 - 6/88  
Thomas Jefferson Univ Hosp  
132 S 10th St. Phila, PA 19107  
Total hours 3840

## 4. THE TRAINING AND EXPERIENCE INDICATED ABOVE WAS OBTAINED UNDER THE SUPERVISION OF:

### a. NAME OF SUPERVISOR

Chan H. Park, M.D.

### b. NAME OF INSTITUTION

Thomas Jefferson Univ Hosp

### c. MAILING ADDRESS

132 S. 10th St.

### d. CITY

Phila, PA 19107

### e. MATERIALS LICENSE NUMBER(S)

37 00 148 06

## 5. PRECEPTOR'S SIGNATURE

*Chan H. Park, M.D.*

## 7. PRECEPTOR'S NAME (Please type or print)

Chan H. Park, M.D.

## 8. DATE

NOV. 13 '92

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER <i>Mark Krakovitz M.D.</i>	2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE <i>Pa., N.J.</i>
--	--

3. CERTIFICATION		
SPECIALTY BOARD <b>A</b>	CATEGORY <b>B</b>	MONTH AND YEAR CERTIFIED <b>C</b>
<i>American Board of Radiology</i>		<i>May 26, 1988</i>

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		
		LECTURE / LABORATORY COURSES (Hours) <b>C</b>	SUPERVISED LABORATORY EXPERIENCE (Hours) <b>D</b>	
a. RADIATION PHYSICS AND INSTRUMENTATION	<i>Jermaine Hosp + medical center 1983-86 Thomas Jefferson Univ. Hosp 1986-88</i>	<i>75</i>		
b. RADIATION PROTECTION		<i>30</i>		
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	<i>Total Hrs for Lecture/Lab 35.100 40 20</i>	<i>45</i>		
d. RADIATION BIOLOGY	<i>35.200 200 (a) 2500 (b) 3500</i>	<i>30</i>		
e. RADIOPHARMACEUTICAL CHEMISTRY	<i>35.300 80 Hypertrophic 12 Cancer 10</i>	<i>30</i>		

5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)				
ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
		<i>Full range of diagnostic use in humans. I<sup>131</sup> for Hyperthyroidism + Thyroid Cancer at Thomas Jefferson Univ. Hosp. See supplement B.</i>		

**EXHIBIT 3  
SUPPLEMENT B**

SUPPLEMENT		U. S. NUCLEAR REGULATORY COMMISSION	
PRECEPTOR STATEMENT			
Supplement B must be completed by the applicant physician's preceptor. If more than one preceptor is necessary to document experience, obtain a separate statement from each.			
<b>1. PROPOSED PHYSICIAN USER'S NAME AND ADDRESS</b> <div style="border: 1px solid black; padding: 2px;"> <b>FULL NAME</b>  <i>Paul G. Dupont</i> </div> <div style="border: 1px solid black; padding: 2px;"> <b>STREET ADDRESS</b>  <i>136 New State Rd</i> </div> <div style="display: flex; justify-content: space-between; font-size: x-small;"> <div style="border: 1px solid black; padding: 2px;"> <b>CITY</b>  <i>Andalusia</i> </div> <div style="border: 1px solid black; padding: 2px;"> <b>STATE</b>  <i>PA</i> </div> <div style="border: 1px solid black; padding: 2px;"> <b>ZIP CODE</b>  <i>17020</i> </div> </div>		<b>KEY TO COLUMN C</b> <b>PERSONAL PARTICIPATION SHOULD CONSIST OF:</b> 1. Supervised examination of patients to determine the suitability for radiopharmaceutical diagnosis and/or treatment and recommendation for prescribed dosage. 2. Collaboration in dose calibration and actual administration of dose to the patient including calculation of the radiation dose, related measurements and sorting of data. 3. Adequate period of training to enable physician to manage radioactive patients and follow patients through diagnosis and/or course of treatment.	
<b>2. CLINICAL TRAINING AND EXPERIENCE OF ABOVE NAMED PHYSICIAN</b>			
ISOTOPE	CONDITIONS DIAGNOSED OR TREATED	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION	COMMENTS <small>(Additional information or comments may be submitted in duplicate on separate sheets.)</small>
A	B	C	D
	Thyroid scan	14	
	Thyroid uptake	16	
	Lung perfusion scan	31	
	Lemon ventilation study	5	
	Aerosol ventilation scan	24	
	Renal flow scan	87	
	Brain scan	18	
	Liver/spleen scan	12	
	Bone scan	113	
	Gastroesophageal study		
	LeVeen shunt study		
	Cystogram		
	Hysterosalpingogram		
	Cardiac perfusion scan		
	Cardiac stress ventriculogram	3	
	Cardiac rest ventriculogram	38	
	Gallium scan	6	
	Schillings	7	
Adrenal	2		
Bowel Gastric Emptying	7		
Dual X-ray	146		
Biliary	14		
White Blood Cell	3		
Myocardial Perfusion	53		
Blood Volume		4	
G.I. Blood Loss			

3 EXH-5

## EXHIBIT 3 (Continued)

PROPOSED PHYSICIAN USER

## PRECEPTOR STATEMENT (Continued)

## 2. CLINICAL TRAINING AND EXPERIENCE OF ABOVE NAMED PHYSICIAN (Continued)

ISOTOPE	CONDITIONS DIAGNOSED OR TREATED	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION	COMMENTS (Additional information or comments may be submitted in duplicate on separate sheets.)
A	B	C	D
P-32 (Sodium)	TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA, AND BONE METASTASES		
P-32 (Calcium)	INTRACAVITARY TREATMENT		
I-131	TREATMENT OF THYROID CARCINOMA		
	TREATMENT OF HYPERTHYROIDISM		
Am-106	INTRACAVITARY TREATMENT		
Co-60 or Co-137	INTERSTITIAL TREATMENT		
	INTRACAVITARY TREATMENT		
P-132 or I-127 or Co-60 or Co-137	INTERSTITIAL TREATMENT		
	TELETHERAPY TREATMENT		
Er-90	TREATMENT OF EYE DISEASE		
	RADIOPHARMACEUTICAL PREPARATION		
Mo-99/ Tc-99m	GENERATOR		
Sn-113/ In-113m	GENERATOR		
Ta-182m	REAGENT KITS		
Other			

## 3. DATES AND TOTAL NUMBER OF HOURS RECEIVED IN CLINICAL RADIOISOTOPE TRAINING

LOCATION	DATES	CLOCK HOURS OF EXPERIENCE
Division of Nuclear Medicine	June 1992	
SUNY Health Science Center	Jan. 1993	1006 HRS.
Syracuse, New York	Jan, Feb, May 1994	

## 4. THE TRAINING AND EXPERIENCE INDICATED ABOVE WAS OBTAINED UNDER THE SUPERVISION OF:

## A. NAME OF SUPERVISOR

F. Deaver Thomas, M.D.

## B. NAME OF INSTITUTION

SUNY Health Science Center

## C. MAILING ADDRESS

750 E. Adams Street

## D. CITY

Syracuse, New York 13210

## E. STATE HEALTH LICENSE NUMBER

47-15

## 5. PRECEPTOR'S SIGNATURE

F. Deaver Thomas MD

## 7. PRECEPTOR'S NAME (Print name of doctor)

F. Deaver Thomas MD.

## 6. DATE

June 27, 1996

EXH-7

EXHIBIT 2  
SUPPLEMENT A

SUPPLEMENT		U.S. NUCLEAR REGULATORY COMMISSION	
TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER			
1. NAME OF PROPOSED AUTHORIZED USER OR RADIATION SAFETY OFFICER <i>Paul G. Dupont, MD</i>		2. FOR PHYSICIANS, STATE OR TERRITORY WHERE LICENSED <i>PA, NY</i>	
3. CERTIFICATION			
SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C	
<i>Diagnostic Radiology</i>		<i>6/94</i>	
4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES			
FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	TYPE AND LENGTH OF TRAINING	
		CLOCK HOURS IN LECTURE OR LABORATORY	CLOCK HOURS OF SUPERVISED ON-THE-JOB EXPERIENCE
1. RADIATION PHYSICS AND INSTRUMENTATION	<i>SUNY HSC SYR NY</i>	<i>100</i>	<i>10</i>
2. RADIATION PROTECTION		<i>20</i>	<i>10</i>
3. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY		<i>20</i>	<i>10</i>
4. RADIATION BIOLOGY		<i>20</i>	<i>0</i>
5. RADIOPHARMACEUTICAL CHEMISTRY		<i>10</i>	<i>10</i>
5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)			
ISOTOPE	NOT USED AT ONE TIME	LOCATION	CLOCK HOURS
TYPE OF USE			
<i>Full range of radioisotopes used in human applications in nuclear medicine</i>			

EXH-5



## SUPPLEMENT B

U. S. NUCLEAR REGULATORY COMMISSION

## SUPPLEMENT

### PRECEPTOR STATEMENT

Supplement B must be completed by the applicant physician's preceptor. If more than one preceptor is necessary to document experience, obtain a separate statement from each.

## 1. PROPOSED PHYSICIAN USER'S NAME AND ADDRESS

FULL NAME

ROBERT KILLIAN

STREET ADDRESS

225

~~2-11~~ DEWTON RD

C: 7.5

CITY STATE ZIP CODE  
LAWRENCEVILLE PA 18970

KEY TO COLUMN C

PERSONAL PARTICIPATION SHOULD CONSIST OF:

1-Supervised examination of patients to determine the suitability for radiophosphate diagnosis and/or treatment and recommendation for prescribed dosage.

2-Collaboration in dose calibration and actual administration of dose to the patient including calculation of the radiation dose, related measurements and plotting of data.

3- Adequate period of training to enable physician to manage radiating patients and follow patients through diagnosis and/or course of treatment.

## 2. CLINICAL TRAINING AND EXPERIENCE OF ABOVE NAMED PHYSICIAN

ISO CPE	CONDITIONS DIAGNOSED OR TREATED B	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION C	COMMENTS (Additional information or comments may be submitted in duplicate on separate sheets.) D
	Thyroid scan	730	
	Thyroid uptake	730	
	Lung perfusion scan	780	
	Xenon ventilation study	780	
	Aerosol ventilation scan	Ø	
	Renal flow scan	740	
	Brain scan	715	
	Liver/spleen scan	730	
	Bone scan	7100	
	Gastroesophageal study	710	
	LuYeen shunt study	75	
	Cystogram	75	
	Esaryocystogram	Ø	
	Cardiac perfusion scan.	770	
	Cardiac stress ventriculogram	720	
Cardiac rest ventriculogram	720		
Gallium scan	730		
	INDIUM SCAN	75	



## EXHIBIT 3 (Continued)

PROPOSED PHYSICIAN USER

ROBERT KILLIAN

## PRECEPTOR STATEMENT (Continued)

## 2. CLINICAL TRAINING AND EXPERIENCE OF ABOVE NAMED PHYSICIAN (Continued)

ISOTOPE A	CONDITIONS DIAGNOSED OR TREATED B	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION C	COMMENTS (Additional information or comments may be submitted in duplicate on separate sheets.) D
P-32 (Sodium)	TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA, AND BONE METASTASES	0	
P-32 (Cobalt)	INTRACAVITARY TREATMENT	0	
I-131	TREATMENT OF THYROID CARCINOMA	13	
	TREATMENT OF HYPERTHYROIDISM	15	
Au-198	INTRACAVITARY TREATMENT	0	
Co-60 or Cs-137	INTERSTITIAL TREATMENT	0	
	INTRACAVITARY TREATMENT	0	
I-125 or Ir-192	INTERSTITIAL TREATMENT	0	
Co-60 or Cs-137	TELETERAPY TREATMENT	0	
Sr-90	TREATMENT OF EYE DISEASE	0	
	RADIOPHARMACEUTICAL PREPARATION	0	
Mo-99/ Tc-99m	GENERATOR	0	
Sm-153/ In-113m	GENERATOR	0	
Tc-99m	REAGENT KITS	225	
Other			

3. DATES AND TOTAL NUMBER OF HOURS RECEIVED IN CLINICAL RADIOISOTOPE TRAINING  
 6 months during residency 7/90-7/94 at MOUNT SINAI HOSPITAL, CHICAGO IL 60608 + TRUMAN MEDICAL CENTER  
 LOCATION: 7/90-7/94 DATES: 7/90-7/94 CLOCK HOURS OF EXPERIENCE: 960 hours

THE TRAINING AND EXPERIENCE INDICATED ABOVE WAS OBTAINED UNDER THE SUPERVISION OF:

1. NAME OF SUPERVISOR

KENNETH ALFIERI

2. NAME OF INSTITUTION

TRUMAN MEDICAL CENTER

3. MAILING ADDRESS

2301 HOLMES ST.

4. CITY

KANSAS CITY

5. MATERIALS LICENSE NUMBER(S)

6. PRECEPTOR'S SIGNATURE

Kenneth M. Alfieri M.D.

7. PRECEPTOR'S NAME (Print type or print)

Kenneth M. Alfieri M.D.

8. DATE

6/30/96

EXHIBIT 2  
SUPPLEMENT A

SUPPLEMENT		U.S. NUCLEAR REGULATORY COMMISSION	
TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER			
1. NAME OF PROPOSED AUTHORIZED USER OR RADIATION SAFETY OFFICER <i>ROBERT J. KILLIAN, M.D.</i>		2. FOR PHYSICIANS, STATE OR TERRITORY WHERE LICENSED <i>FLORIDA, PENNSYLVANIA</i>	
3. CERTIFICATION			
SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C	
<del>DIAGNOSTIC RADIOLOGY</del> <i>AMERICAN BOARD OF RADIOLOGY</i>	<i>DIAGNOSTIC RADIOLOGY</i>	<i>6/94</i>	
4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES <i>(INCLUDING HOME STUDY)</i>			
FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	CLOCK HOURS IN LECTURE OR LABORATORY	CLOCK HOURS OF SUPERVISED ON-THE-JOB EXPERIENCE
<i>a. RADIATION PHYSICS AND INSTRUMENTATION</i>	<i>MOUNT SINAI HOSPITAL, CHICAGO, ILLINOIS and TRUMAN MEDICAL CENTER, KANSAS CITY, MISSOURI</i>	<i>90</i>	<i>10</i>
<i>b. RADIATION PROTECTION</i>	<i>as above</i>	<i>30</i>	<i>10</i>
<i>c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY</i>	<i>as above</i>	<i>30</i>	<i>—</i>
<i>d. RADIATION BIOLOGY</i>	<i>as above</i>	<i>30</i>	<i>—</i>
<i>e. RADIOPHARMACEUTICAL CHEMISTRY</i>	<i>as above</i>	<i>5</i>	<i>5</i>
5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)			
ISOTOPE	MOI USED AT ONE TIME	LOCATION	CLOCK HOURS
<i>FULL RANGE OF ISOTOPES USED IN HUMAN APPLICATIONS</i>		<i>IN NUCLEAR MEDICINE</i>	

Form AEC-312a  
(2-73)  
Page 3

UNITED STATES ATOMIC ENERGY COMMISSION  
**APPLICATION FOR BYPRODUCT MATERIAL LICENSE—MEDICAL**  
 SUPPLEMENT A—PRECEPTOR STATEMENT

This page is to be completed by the applicant physician's preceptor. If more than one preceptor is necessary to document experience, obtain a separate statement from each. Page 2 may be used for comments and additional information.

10. NAME AND ADDRESS OF APPLICANT PHYSICIAN (Include ZIP Code.) **CHRISTOPHER MEOLI D.O.**  
**PROFESSIONAL BUILDING NORTH 2700 HOSPITAL DRIVE SUITE 220**  
**NORTH KANSAS CITY MO. 64116**

11. CLINICAL TRAINING AND EXPERIENCE OF PHYSICIAN NAMED IN ITEM 10 ABOVE

(A) ISOTOPE	(B) CONDITIONS DIAGNOSED OR TREATED	(C) No. Cases Observed (See 1 in key below)	(D) No. Cases Involving Personal Participation (See 2 in key below)
I-131 or I-125	Diagnosis of thyroid function	150	80
	Determination of blood and blood plasma volume	10	8
	Liver function studies	30	17
	Fat absorption studies	3	2
	Kidney function studies	50	30
	In vitro studies	25	20
Cr-51	Gastrointestinal protein loss studies	3	2
	Determination of red blood cell volume and studies of red blood cell survival	15	10
Fe-59	Iron turn over studies	6	4
Co-58 or Co-60	Intestinal absorption studies	15	10
K-42	Potassium space determinations		
I-131	Thyroid imaging	200	150
	Brain tumor localization and cardiac imaging		
	Cisternography	15	10
	Lung imaging	10	8
	Liver imaging	30	20
	Kidney imaging		
	Placenta localization	8	8
Cr-51	Placenta localization		
	Spleen imaging	2	1
Au-198	Liver imaging	10	8
Hg-197	Brain imaging	10	7
	Kidney imaging	10	7
Hg-203	Brain imaging	5	2
Sr-85	Bone imaging	2	2
Tc-99m	Brain imaging	200	150
	Thyroid imaging	150	100
	Salivary gland imaging	6	4
	Blood pool imaging	18	8

PAGE 4

# APPLICATION FOR BYPRODUCT MATERIAL LICENSE—MEDICAL

## SUPPLEMENT A—HUMAN USE

(A) ISOTOPE	(B) CONDITIONS DIAGNOSED OR TREATED	(C) No. Cases Observed (See 1 in key below)	(D) No. Cases Involving Personal Participation (See 2 in key below)
Tc-99m	Placenta localization	30	20
	Liver and spleen imaging	150	90
	Lung imaging	250	225
	Bone imaging	150	130
Xe-133	Blood flow studies and pulmonary function studies	50	35
Se-75	Pancreas imaging	14	7
P-32	Treatment of polycythemia, leukemia, and Bone metastases		
	Intracavitary treatment	3	3
I-131	Treatment of thyroid carcinoma		
	Treatment of hyperthyroidism and cardiac condition	20	15
Au-198	Intracavitary treatment		
Co-60 or CO-137	Interstitial treatment		
	Intracavitary treatment		
Ir-192	Interstitial treatment		
Co-60 CO-137	Teletherapy treatment		
Sr-90	Treatment of eye disease		

## Key to Column (C) and (D) above

1. Observation should consist of observing radioisotope administration techniques and discussion with preceptor the case histories to establish most appropriate diagnostic and/or therapeutic procedure, limitation, contraindications, etc.
2. Personal participation should consist of (a) supervised examination of patients to determine the suitability for radioisotope diagnosis and/or treatment and recommendation on dosage to be prescribed; (b) collaboration in calibration of the dose and the actual administration of the dose to the patient, including calculation of the radiation dose, related measurements, and plotting of data; and (c) adequate period of training to enable the physician to manage radioactive patients and to follow patients through diagnosis and/or the course of treatment.

12. DATES AND TOTAL NUMBER OF HOURS OF CLINICAL RADIOISOTOPE TRAINING 900 HRS BETWEEN 7-74 AND 7-76.

13. THE TRAINING AND EXPERIENCE INDICATED ABOVE WAS OBTAINED UNDER THE SUPERVISION OF PAUL J CHATE DO.

JOHN F KENNEDY MEM. HOSP.  
AT STRATFORD NEW JERSEY  
(Institution Name and Address)

29-12167-01

(Byproduct Material License Number)

*Paul J Chate DO*  
(Signature of Preceptor)



EXHIBIT 2  
SUPPLEMENT A

SUPPLEMENT		U.S. NUCLEAR REGULATORY COMMISSION	
TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER			
1. NAME OF PROPOSED AUTHORIZED USER OR RADIATION SAFETY OFFICER <i>CHRISTOPHER MEDLI, D.O.</i>		2. FOR PHYSICIANS, STATE OR TERRITORY WHERE LICENSED <i>PA, NJ, MO, KS</i>	
3. CERTIFICATION			
SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C	
<i>A O B R (Diagnostic Radiology)</i>		<i>July 1978 April 1992 (recertified)</i>	
4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES			
FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	TYPE AND LENGTH OF TRAINING	
		CLOCK HOURS IN LECTURE OR LABORATORY	CLOCK HOURS OF SUPERVISED ON-THE-JOB EXPERIENCE
a. RADIATION PHYSICS AND INSTRUMENTATION	<i>UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, PA</i>	<i>95</i>	<i>5</i>
b. RADIATION PROTECTION	<i>"</i>	<i>25</i>	<i>15</i>
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	<i>"</i>	<i>15</i>	<i>5</i>
d. RADIATION BIOLOGY	<i>"</i>	<i>20</i>	<i>5</i>
e. RADIOPHARMACEUTICAL CHEMISTRY	<i>"</i>	<i>15</i>	<i>5</i>
5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)			
ISOTOPE	mCi USED AT ONE TIME	LOCATION	CLOCK HOURS
			TYPE OF USE
<i>Full range of radioisotopes used in human applications in nuclear medicine.</i>			

Christopher Meoli, D.O.

## UNIVERSITY of PENNSYLVANIA

DAVID E. KUHL, M.D.

*Professor of Radiology*

Nuclear Medicine Division  
Department of Radiology  
Hospital of the University  
of Pennsylvania G1  
Philadelphia  
Pennsylvania 19104  
215-662-3095

CHRISTOPHER MEOLI, D.O.

has successfully completed Nuclear Medicine 210, a course under my direction covering the basic science and principles of nuclear medicine. This course extended from 13 January 1975 to 10 February 1975 at the Hospital of the University of Pennsylvania, and included 59 hours of lecture, 45 hours of laboratory, and graded examinations. Subjects included the basic principles of radiation physics, instrumentation, radiopharmaceuticals, in vivo studies, in vitro studies, and therapeutic uses of radionuclides.

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David E. Kuhl, M.D.  
10 February 1975

← original signed by  
Dr. D.E. Kuhl.



BETWEEN:

License Fee Management Branch, ARM  
and  
Regional Licensing Sections

Program Code: 02120  
Status Code: 0  
Fee Category: 7C  
Exp. Date: 20050930  
Fee Comments: CODE 23  
Decom Fin Assur Req'd: N

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

Applicant/Licensee: MEDICAL COLLEGE OF PENNSYLVANIA  
Received Date: 970605  
Docket No: 3003036  
Control No.: 124637  
License No.: 37-04172-01  
Action Type: Amendment

2. FEE ATTACHED

Amount: \$440.00  
Check No.: 2110012620

3. COMMENTS

Signed M. A. Perkins  
Date 6/5/97

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered ✓)

1. Fee Category and Amount: 7C \$440

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

Amendment ✓  
Renewal \_\_\_\_\_  
License \_\_\_\_\_

3. OTHER \_\_\_\_\_

Signed \_\_\_\_\_  
Date \_\_\_\_\_

I 97

Log	<u>Done 7</u>
Printer	<u>ALLEGHENY HEALTH EDUC. + RESEARCH</u>
Check No.	<u>2110012620</u>
Amount	<u>\$440</u>
Fee Category	<u>7C</u>
Type	<u>AMD</u>
Date Check Paid	<u>6/10/97</u>
Date Completed	<u>BB</u>
By	<u>BB</u>

1997 JUN -9 PM 3:23