



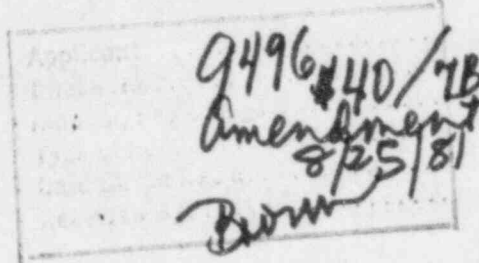
# St. Anthony's Medical Center

10010 KENNERLY ROAD  
ST. LOUIS, MISSOURI 63128

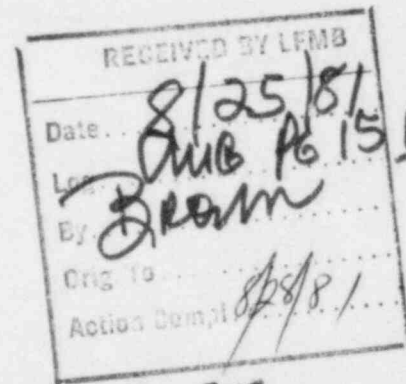
Department of Radiology  
John Wm. Fries, M.D. F.A.C.R. Director

John L. Bircher, M.D., F.A.C.R.  
Robert W. Smith, M.D.  
Daniel A. Abodeely, M.D.  
J. Michel Gennaoui, M.D.

Marvin A. Cook, M.D.  
Edward R. Habert, M.D.  
Jose G. Vijungco, M.D.  
Edward W. Szoko, M.D.



July 10, 1981



Medical Licensing  
U.S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

RE: License #24-01041-03 -30-307  
License #24-01041-04

Gentlemen:

Please amend our byproduct licenses to add 3 new users,  
1. Jose G. Vijungco M.D., 2. Jad M. Gennaoui M.D.,  
3. Edward W. Szoko M.D..

These 3 physicians are now associated with John L. Bircher M.D. and John W. Fries M.D. and the other 4 users already listed on the institutional licenses, and are all certified by the American Board of Radiology. In addition, they have adequate training and experience in basic radioisotope handling techniques as well as experience with the types and quantities of byproduct material used at this institution as evidenced by the accompanying forms NRC-313M-supplement A & B appended.

I affirm the above statements are true.

8506070409 850524  
REQ3 LIC30  
24-01041-04 PDR

*Joseph B. Weber*  
Joseph B. Weber,  
Acting Chief Executive Officer

JLB/sy

State of Missouri )  
County of St. Louis ) ss.:

encl.

On this 4th day of August 1981, before me personally appeared  
Joseph B. Weber known to me to be the individual who executed the  
foregoing instrument.

SUSAN B. MUELLER  
NOTARY PUBLIC - STATE OF MISSOURI  
ST. LOUIS COUNTY  
MY COMMISSION EXPIRES FEB. 15, 1983

*Susan B. Mueller*  
Notary Public

5241  
AUG 13 1981

net airflow rate:

$$V = \frac{\text{ft}^3}{75 \text{ min}} \times 6.8 \times 10^7 \frac{\text{ml}}{\text{wk}} \frac{\text{ft}^3}{\text{min}} = 5.1 \times 10^9 \frac{\text{ml}}{\text{wk}}$$

average concentration of Xe during week:

$$\frac{Af}{V} = \frac{.25 \text{ Ci/wk} \times .2}{5.1 \times 10^9 \text{ ml/wk}} = 9.8 \times 10^{-12} \frac{\text{Ci}}{\text{ml}} \quad (< 1 \times 10^{-5} \frac{\text{mCi}}{\text{ml}})$$

6. The Xe used in these studies will normally be removed by absorption on charcoal traps (Atomic Products model 127-313). However, in case of an excessive overall leakage of 20%, as assumed in item 5, the amount of Xe vented into unrestricted areas will not exceed  $3 \times 10^{-7} \text{ mCi/ml}$ :

$$A = .25 \frac{\text{Ci}}{\text{wk}} \times 52 \frac{\text{wk}}{\text{yr}} = 1.3 \frac{\text{Ci}}{\text{yr}}$$

$$f = .2$$

exhaust rate from rooms 2494, 2494A and 2494B:

$$V = (550 + 400 + 525) \frac{\text{ft}^3}{\text{min}} \times 1.5 \times 10^{10} \frac{\text{ml/yr}}{\text{ft}^3/\text{min}} = 2.2 \times 10^{13} \frac{\text{ml}}{\text{yr}}$$

average concentration of Xe during year:

$$\frac{Af}{V} = \frac{1.3 \text{ Ci/yr} \times .2}{2.2 \times 10^{13} \text{ ml/yr}} = 1.2 \times 10^{-13} \frac{\text{Ci}}{\text{ml}}$$

Xe exhaust from the trap will be monitored (model 136-250) and saturated filters replaced and disposed of with other radioactive waste.

Thank you, if you desire additional information do not hesitate to contact us.

Sincerely,

Joseph B. Weber

Vice President

John L. Bircher, M.D.  
Chairman, Radiation Safety Committee

State of Missouri )  
County of St. Louis ) ss.:

On this 4th day of August 1981, before me personally appeared Joseph B. Weber and John L. Bircher, M.D., known to me to be the individuals who executed the foregoing instrument.

Susan B. Mueller  
Notary Public

SUSAN B. MUELLER  
NOTARY PUBLIC - STATE OF MISSOURI  
ST. LOUIS COUNTY

MY COMMISSION EXPIRES FEB. 15, 1983  
CONTROL NO. 05241

April 16, 1981

U.S. Nuclear Licensing  
799 Nuclear Regulatory Commission  
Glen Elder Road

Good Day,

Please amend our by-product material license number 24-01041-04 to include 133 Xenon.

Supporting information for use of 133 Xenon:

1. We expect to study no more through 25 patients per week using an average activity of 10 mCi Xe133 per patient. A 0.5 curie limit of .5 Ci is derived.
2. A diagram is enclosed, showing the pharmacy (Room 2494B) where the Xe will be stored, and scan room 2494 where the studies will take place. Another diagram is also enclosed which shows the supply and exhaust vents, accompanied by calculations of the airflow rates. No air is recirculated by this system. In the scan room where Xe will be used, a negative pressure of 75ft<sup>3</sup>/min will be maintained with 475ft<sup>3</sup>/min air supplied and 550ft<sup>3</sup>/min exhausted continually.
3. The apparatus which will be used is described in the brochure entitled: "Atomic Products"-models 130-330, 127-313 and 136-250.
4. In case of an accidental release of Xe 133, the air supply flow will be turned off, increasing the ventilation exhaust rate from 75ft<sup>3</sup>/min to 500ft<sup>3</sup>/min.
5. Concentration of Xe in air of scan room is estimated as follows:

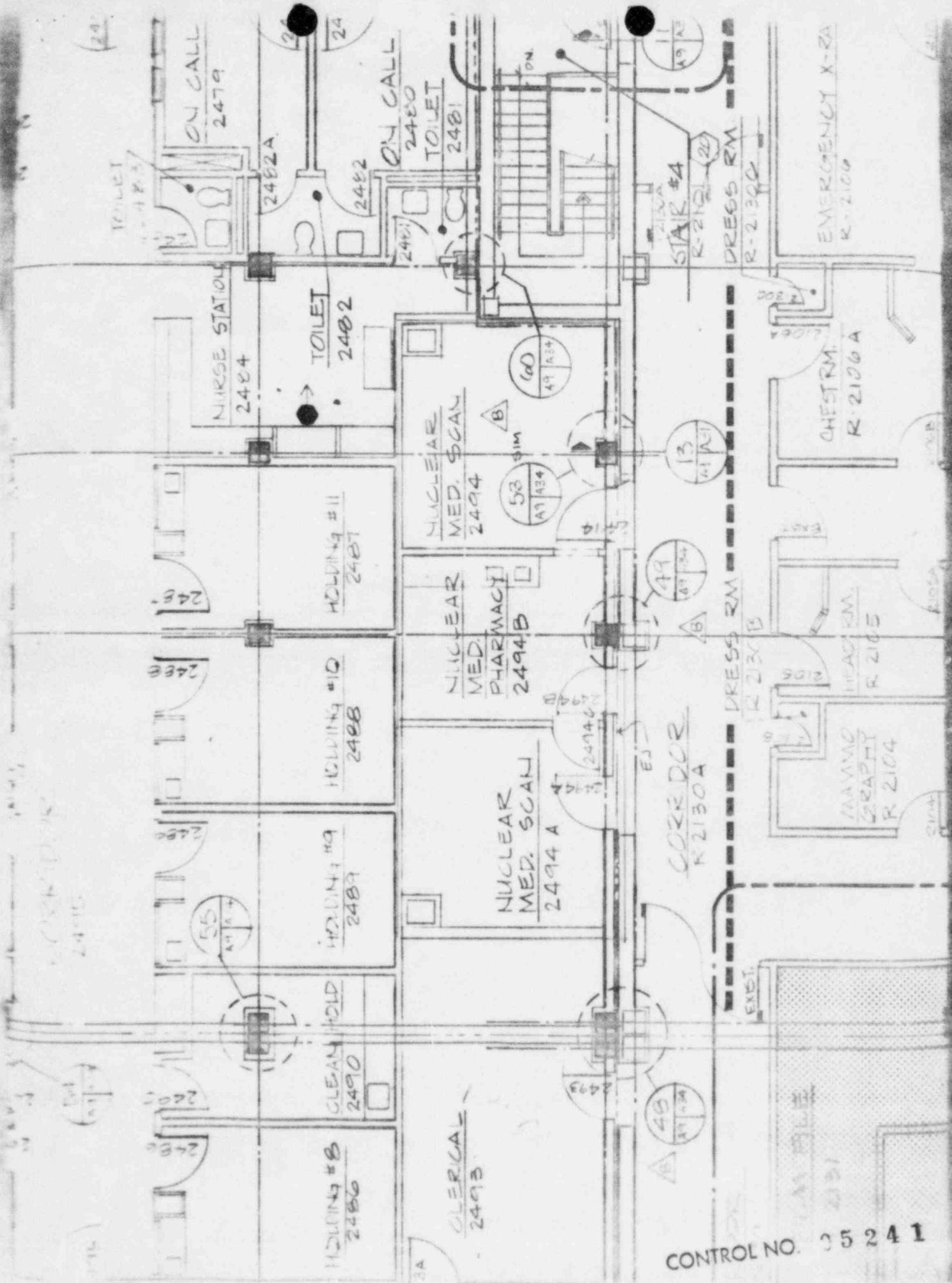
max. activity to be used per week:

$$\frac{10 \text{ mCi} \times 25 \text{ pt.}}{\text{ft.} \times \text{wk}} = \frac{\text{Ci}}{.25 \text{ wk}}$$

estimated fraction of Xe lost overall:

$$f = .2$$

CONTROL NO. 05241



CONTROL NO. 05241





Job 7114 ST. ANTHONY'S Hosp REVISED 1/16/80

HYAC-19 6

Location SECOND FLOOR

Date

Supply  
Air

Exhaust

Return  
Air→ 2494 14.5'x13' = 189 ft<sup>2</sup> x 9' = 1700 FT<sup>3</sup> x  $\frac{9}{60}$  = 425 CFM

NUCLEAR

Xenon Room

MED.

(40)

(1) TXB-24x24-14'φ - 475 CFM (56) (1) TXB-24x24-16'φ - 550 CFM

2494B 10'x13' = 130 ft<sup>2</sup> x 9' = 1170 FT<sup>3</sup> x  $\frac{9}{60}$  = 390 CFM

NUCLEAR

Radiopharmacy

MED.

(31)

(1) TXB-24x24-14'φ - 350 CFM (40) (1) TXB-24x24-14'φ - 400 CFM

2494A 13'x13' = 162 ft<sup>2</sup> x 9' = 1501 FT<sup>3</sup> x  $\frac{9}{60}$  = 380 CFM

NUCLEAR

Isotope Room

MED.

(39)

(1) TXB-24x24-14'φ - 450 CFM (55) (1) TXB-24x24-14'φ - 525 CFM

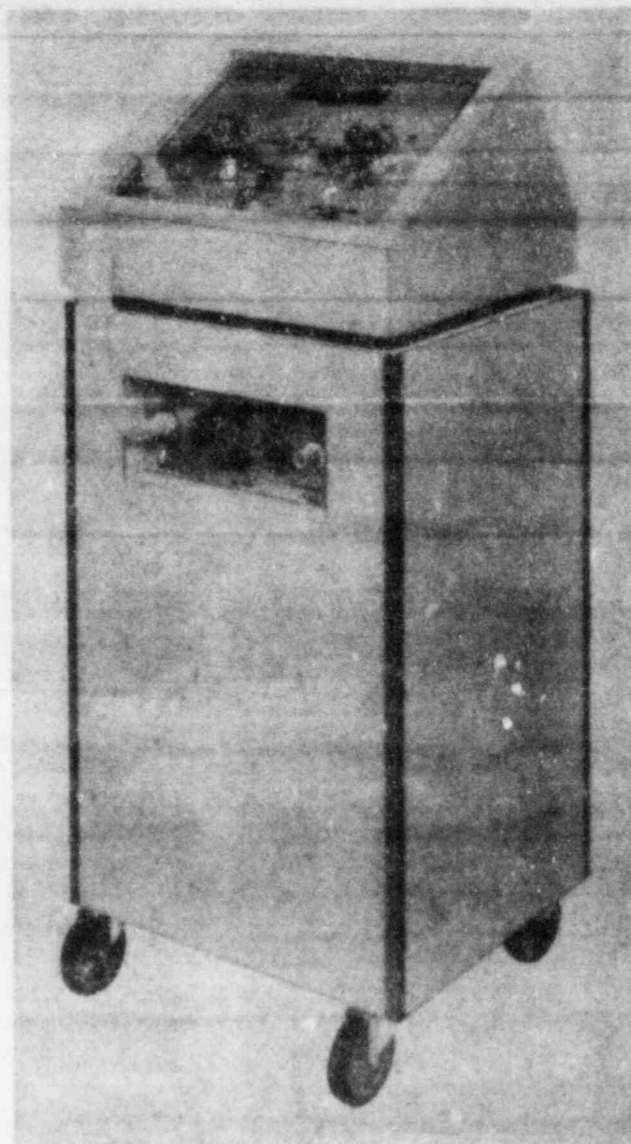
CONTROL NO. 05241

COMBINE The Model 130-330 XENON DELIVERY UNIT and The Model 127-313 XENON GAS TRAP into a FULL FUNCTION ECONOMY

## XENON SYSTEM

for  
less than \$2000

- EASY TO USE
- SAFE
- OVERALL SIZE 18" x 19" x 49"
- EFFICIENT
- ACCEPTS ANY OUTSIDE XENON SOURCE
- ACCEPTS ANY OUTSIDE SOURCE OF OXYGEN
- SPECIAL ULTRA SENSITIVE CHECK VALVE INSURES RESISTANCE FREE BREATHING
- MINIMUM LENGTH AIRWAY CIRCUIT FOR UNIFORM GAS MIXTURE
- OBSERVABLE BREATHING BAG FOR OXYGEN REPLENISHMENT
- VARIABLE LENGTH MOUTHPIECE SECTION FOR PATIENT COMFORT
- COMPLETE LEAD SHIELDING
- EASY MOBILITY
- INTERCHANGEABLE BREATHING BAG
- CARBON DIOXIDE TRAP
- MOISTURE TRAP
- EASY STERILIZATION
- CHARCOAL CARTRIDGE, YEAR GUARANTEE
- EXCEEDS NRC REQUIREMENTS
- AUTOMATIC TIMER
- ADJUSTABLE AIR FLOW CONTROL



### ECONOMY XENON SYSTEM

|                                  |           |
|----------------------------------|-----------|
| 130-330 XENON DELIVERY UNIT..... | \$ 995.00 |
| 127-313 XENON GAS TRAP.....      | \$ 995.00 |

\* Maximum permissible concentration in a controlled area per Title 10 CFR 20, Appendix B, Table I, Column 1, is  $1 \times 10^{-5}$   $\mu\text{Ci}/\text{cm}^3$ .

FOR MORE INFORMATION ON A SIMILAR SYSTEM SEE Secker-Walker R, Barbier J, Wiener N, Alderson P: A  $^{133}\text{Xe}$  System For Studies Of Regional Ventilation. *Journal of Nuclear Medicine*, Vol. 15, No. 4, April 1974.

### TYPICAL STUDY PROCEDURE

1. Adjust valves to close system circuit.
2. Connect outside oxygen source to inlet port.
3. Press button to add oxygen to breathing bag and circuit.
4. Add xenon at mouthpiece or into breathing bag inlet port.
5. Patient breathes to equilibrium.
6. Adjust valves to open circuit, patient inhales ambient air, exhaled air is directed to trap during washout.
7. Set trap timer on-off switch to desired wash-out time.
8. Adjust trap pump/air flow to accommodate patients breathing pattern.
9. System automatically stops when study is complete.

CONTROL NO. 25341

# XENALARM XENON TRAP MONITOR

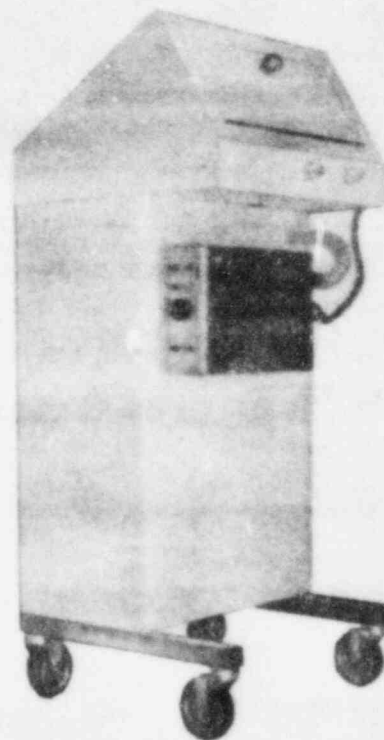
- Simple, sensitive, compact unit immediately alerts user to excess concentrations of radioactive xenon.
- Visual and aural alarms.



Placed at the exhaust port of any xenon gas trap, the Xenalarm monitors the xenon exhaust level and automatically trips a visual and aural alarm when concentrations of radioactive xenon exceed  $1 \times 10^{-2}$  uCi/ml. NRC and State agencies require that the xenon concentration in controlled areas does not exceed  $1 \times 10^{-5}$  uCi/ml averaged over one year based on a 40 hour work week. Xenalarm allows an exhaust rate in excess of the limit as the exhaust is diluted in the room and still further diluted by virtue of the required room ventilation.

The detector is a sensitive end window G-M tube inserted directly in the exhaust stream. The system measures both beta and gamma emissions of xenon.

A "beeper" audio alarm and a flashing red light warn of excessive radioactive xenon. The audio alarm may be turned off at any time by a simple "off-on" switch. Should the alarm activate during or after a study, the charcoal cartridge in the trap should be changed immediately after the completion of the study.



The "Test" button permits manual activation of the alarm system to ascertain its operation. A method to calibrate the unit with a known  $^{137}\text{Cs}$  source is provided.

The complete unit measures 8-1/2" W x 3-11/16" H x 13-3/16" D.

136-250 Xenalarm Xenon Trap Monitor ..... \$ 695.00

CONTROL NO. 5241



(8-78)

# TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER

Jose G. Vijungco, M.D.

2. STATE OR TERRITORY IN  
WHICH LICENSED TO  
PRACTICE MEDICINE

Missour &amp; Illinois

## 3. CERTIFICATION

| SPECIALTY BOARD<br>A                    | CATEGORY<br>B              | MONTH AND YEAR CERTIFIED<br>C |
|---|----------------------------|-------------------------------|
| Radiology (American Board of Radiology) | Diagnostic and Therapeutic | December 1974                 |

## 4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

| FIELD OF TRAINING<br>A  | LOCATION AND DATE(S) OF TRAINING<br>B                      | TYPE AND LENGTH OF TRAINING                       |  |
|---|--|---|--|
|   |  | LECTURE/<br>LABORATORY<br>COURSES<br>(Hours)<br>C | SUPERVISED<br>LABORATORY<br>EXPERIENCE<br>(Hours)<br>D |
| a. RADIATION PHYSICS AND INSTRUMENTATION                              | Presbyterian St. Luke's Hospital & St. Louis University    | 1970-1974<br>200 hrs                              |  |
| b. RADIATION PROTECTION   | Presbyterian St. Luke's & St. Louis University             | 1970 1974<br>60                                   |  |
| c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY | Presbyterian St. Luke's ( Chicago ) & St. Louis University | 40  |  |
| d. RADIATION BIOLOGY  | Presbyterian St. Luke's ( Chicago ) & St. Louis University | 40  |  |
| e. RADIOPHARMACEUTICAL CHEMISTRY                                      | Presbyterian St. Luke's ( Chicago ) & St. Louis University | 30  |  |

## 5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)

| ISOTOPE               | MAXIMUM AMOUNT | WHERE EXPERIENCE WAS GAINED | DURATION OF EXPERIENCE | TYPE OF USE   |
|-----------------------|----------------|-----------------------------|------------------------|---------------|
| <sup>137</sup> Cesium | 10 mCi.        | AS ABOVE                    | 3 yrs.                 | Brachytherapy |
| <sup>60</sup> Co      | 1400 Ci.       | AS ABOVE                    | "                      | Teletherapy   |
| I-131                 | 100-150 mCi.   | "                           | "                      | Therapeutic   |
| Tc-99m                | 1000 mCi.      | "                           | "                      | Diagnostic    |
| P-32                  | 10-15 mCi.     | "                           | "                      | Therapeutic   |
| Co <sup>57</sup>      | 10 microcurie  | "                           | "                      | Diagnostic    |
| Au-198                | 100-150 mCi.   | "                           | "                      | Therapeutic   |

CONTROL

PRECEPTOR STATEMENT (Continued)

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

| ISOTOPE<br>A          | CONDITIONS DIAGNOSED OR TREATED<br>B                             | NUMBER OF<br>CASES INVOLVING<br>PERSONAL<br>PARTICIPATION<br>C | COMMENTS<br>(Additional information or comments may be<br>submitted in duplicate on separate sheets.)<br>D |
|-----------------------|--|--|--|
| P-32<br>(Soluble)     | TREATMENT OF POLYCYTHEMIA VERA,<br>LEUKEMIA, AND BONE METASTASES |  |  |
| P-32<br>(Colloidal)   | INTRACAVITARY TREATMENT  |  |  |
| I-131                 | TREATMENT OF THYROID CARCINOMA                                   |  |  |
|                       | TREATMENT OF HYPERTHYROIDISM                                     |  |  |
| Au-198                | INTRACAVITARY TREATMENT  |  |  |
| Co-60<br>or<br>Cs-137 | INTERSTITIAL TREATMENT   | 15   |  |
|                       | INTRACAVITARY TREATMENT  | 30   |  |
| I-125<br>or<br>Ir-192 | INTERSTITIAL TREATMENT   |  |  |
|                       |  |  |  |
| Co-60<br>or<br>Cs-137 | TELETHERAPY TREATMENT  | 500  |  |
| Sr-90                 | TREATMENT OF EYE DISEASE   |  |  |
|                       | RADIOPHARMACEUTICAL PREPARATION                                  |  |  |
| Mo-99/<br>Tc-99m      | GENERATOR  | 3  |  |
| Sn-113/<br>In-113m    | GENERATOR  |  |  |
| Tc-99m                | REAGENT KITS   |  |  |
| Other                 |  |  |  |

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

April - June 1973

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

a. NAME OF SUPERVISOR  
Dr. Robert Donati Dr. Erica George

b. NAME OF INSTITUTION  
VA Cochran

c. MAILING ADDRESS  
815 N. Grand Blvd.

d. CITY  
St. Louis, Mo. 63106

5. MATERIALS LICENSE NUMBER(S)

6. PRECEPTOR'S SIGNATURE

*James W. Fletcher*

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

James W. Fletcher, M.D.  
Chief, Nuclear Medicine Service

8. DATE

July 23, 1981

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. APPLICANT PHYSICIAN'S NAME AND ADDRESS |       |          | <b>KEY TO COLUMN C</b><br><b>PERSONAL PARTICIPATION SHOULD CONSIST OF:</b><br>1-Supervised examination of patients to determine the suitability for radioisotope diagnosis and/or treatment and recommendation for prescribed dosage.<br>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.<br>3-Adequate period of training to enable physician to manage radioactive patients and follow patients through diagnosis and/or course of treatment. |
| FULL NAME                                 |       |          |   |
| Jose G. Vijungco                          |       |          |   |
| STREET ADDRESS                            |       |          |   |
| 10010 Kennerly Road                       |       |          |   |
| CITY                                      | STATE | ZIP CODE |   |
| St. Louis,                                | Mo.   | 63128    |   |

2. CLINICAL TRAINING AND EXPERIENCE OF ABOVE NAMED PHYSICIAN

| ISOTOPE<br>A         | CONDITIONS DIAGNOSED OR TREATED<br>B              | NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION<br>C | COMMENTS<br>(Additional information or comments may be submitted in duplicate on separate sheets.)<br>D |
|----------------------|---|---|---|
| I-131<br>or<br>I-125 | DIAGNOSIS OF THYROID FUNCTION                     | 15  |   |
|                      | DETERMINATION OF BLOOD AND BLOOD PLASMA VOLUME    | 3   |   |
|                      | LIVER FUNCTION STUDIES                            |   |   |
|                      | FAT ABSORPTION STUDIES                            |   |   |
|                      | KIDNEY FUNCTION STUDIES                           |   |   |
|                      | IN VITRO STUDIES                                  |   |   |
| OTHER                |   |   |   |
| I-125                | DETECTION OF THROMBOSIS                           |   |   |
| I-131                | THYROID IMAGING                                   |   |   |
| P-32                 | EYE TUMOR LOCALIZATION                            |   |   |
| Se-75                | PANCREAS IMAGING                                  | 10  |   |
| Yb-169               | CISTERNOGRAPHY                                    |   |   |
| Xe-133               | BLOOD FLOW STUDIES AND PULMONARY FUNCTION STUDIES |   |   |
| OTHER                |   |   |   |
| Tc-99m               | BRAIN IMAGING                                     | 100   |   |
|                      | CARDIAC IMAGING                                   | 6   |   |
|                      | THYROID IMAGING                                   | 50  |   |
|                      | SALIVARY GLAND IMAGING                            |   |   |
|                      | BLOOD POOL IMAGING                                | 4   |   |
|                      | PLACENTA LOCALIZATION                             | 5   |   |
|                      | LIVER AND SPLEEN IMAGING                          | 150   |   |
|                      | LUNG IMAGING                                      | 50  |   |
|                      | BONE IMAGING                                      | 100   |   |
| OTHER                |   |   |   |

TRAINING AND EXPERIENCE  
AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER

J. M. Gennaoui, M.D.

2. STATE OR TERRITORY IN  
WHICH LICENSED TO  
PRACTICE MEDICINE

Missouri & Oklahoma

3. CERTIFICATION

| SPECIALTY BOARD<br>A           | CATEGORY<br>B           | MONTH AND YEAR CERTIFIED<br>C |
|--------------------------------|-------------------------|-------------------------------|
| AMERICAN BOARD OF<br>RADIOLOGY | Diagnostic<br>Radiology | June 1979                     |

4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

| FIELD OF TRAINING<br>A  | LOCATION AND DATE(S) OF TRAINING<br>B                                  | TYPE AND LENGTH OF TRAINING                       |  |
|---|--|---|--|
|   |  | LECTURE/<br>LABORATORY<br>COURSES<br>(Hours)<br>C | SUPERVISED<br>LABORATORY<br>EXPERIENCE<br>(Hours)<br>D |
| a. RADIATION PHYSICS AND<br>INSTRUMENTATION                                 | St. Louis University<br>Hospitals                                      | 160/2   | 2 hr.  |
| b. RADIATION PROTECTION   | St. Louis University<br>Hospital & John Cochran<br>VA Medical Center   | 40  |  |
| c. MATHEMATICS PERTAINING TO<br>THE USE AND MEASUREMENT<br>OF RADIOACTIVITY | St. Louis University<br>Hospital & John Cochran<br>V.A. Medical Center | 36  |  |
| d. RADIATION BIOLOGY  | St. Louis University<br>Hospital                                       | 12  |  |
| e. RADIOPHARMACEUTICAL<br>CHEMISTRY   | St. Louis University<br>Hospital                                       | 40  |  |

5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)

| ISOTOPE | MAXIMUM AMOUNT | WHERE EXPERIENCE WAS GAINED | DURATION OF EXPERIENCE | TYPE OF USE       |
|---------|----------------|-----------------------------|------------------------|-------------------|
| Tc 99m  | 1000 mCi.      | AS ABOVE                    | 3 months during        | Imaging of        |
| I-131   | 100-150 mCi.   | "                           | 3 years of             | thyroid, lung     |
| Ga 67   | 12 mCi.        | "                           | training               | brain, liver      |
| Tl 201  | 1.5 mCi.       | "                           | "                      | abscess, lymphoma |
| Yb      | 1 mCi.         | "                           | "                      | heart             |
|         |                |                             |                        | Cisternogram      |



# PRECEPTOR STATEMENT (Continued)

1-7-80 014 201102 TRAINING AND EXPERIENCE OF ABOVE NAMED PHYSICIAN (Continued)

| TREATMENTS ADMINISTERED OR TREATED |   | NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION | COMMENTS<br>(Additional information or comments may be submitted in duplicate on separate sheets.) |
|------------------------------------|---|--|--|
| A                                  | B   | C  | D  |
| P-32<br>(Soluble)                  | TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA, AND BONE METASTASES |  |  |
| P-32<br>(Colloidal)                | INTRACAVITARY TREATMENT                                       |  |  |
| I-131                              | TREATMENT OF THYROID CARCINOMA                                |  |  |
|                                    | TREATMENT OF HYPERTHYROIDISM                                  | 2  |  |
| Au-198                             | INTRACAVITARY TREATMENT                                       |  |  |
| Co-60<br>or<br>Cs-137              | INTERSTITIAL TREATMENT  |  |  |
|                                    | INTRACAVITARY TREATMENT                                       |  |  |
| I-125<br>or<br>Ir-192              | INTERSTITIAL TREATMENT  |  |  |
|                                    | TELETHERAPY TREATMENT   |  |  |
| Co-60<br>or<br>Cs-137              |   |  |  |
| Sr-90                              | TREATMENT OF EYE DISEASE                                      |  |  |
|                                    | RADIOPHARMACEUTICAL PREPARATION                               |  |  |
| Mo-99/<br>Tc-99m                   | GENERATOR   |  |  |
| Sn-113/<br>In-113m                 | GENERATOR   |  |  |
| Tc-99m                             | REAGENT KITS  |  |  |
| Other                              |   |  |  |
| Tc-99m                             | Bone Marrow   | 1  |  |
| Ga                                 | Survey  | 4  |  |
| Tc-99m                             | Meckel's Scan   | 1  |  |
| Tl-201                             | Myocardial  | 3  |  |
| I-131                              | Triple Renal  |  |  |
| Tc-99m                             | Triple Renal  | 9  |  |
| DTPA                               | Triple Renal  |  |  |
| Tc-99m                             | EC Triple Renal   |  |  |

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

Period of 10-1-77 through 11-15-77

Approximately 250 hours and approximately 150 hours of formal teaching.

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

### a. NAME OF SUPERVISOR

James W. Fletcher, M.D.

### b. NAME OF INSTITUTION

VA Medical Center

### c. MAILING ADDRESS

Nuclear Medicine Service (115JC)

### d. CITY

St. Louis, Missouri 63125

## 5. MATERIALS LICENSE NUMBER(S)

24-00144-05

## 6. PRECEPTOR'S SIGNATURE

*James W. Fletcher M.D.*

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

James W. Fletcher, M.D.

## 8. DATE

May 28, 1981

# 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. APPLICANT PHYSICIAN'S NAME AND ADDRESS

FULL NAME

JAD MICHEL GENNAOUI

STREET ADDRESS

12931 Huntercreek Road

CITY

St. Louis

STATE

MO

ZIP CODE

63131

## KEY TO COLUMN C

### PERSONAL PARTICIPATION SHOULD CONSIST OF:

1-Supervised examination of patients to determine the suitability for radioisotope 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 radioactive patients and follow patients through diagnosis and/or course of treatment.

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

| ISOTOPE<br>A         | CONDITIONS DIAGNOSED OR TREATED<br>B              | NUMBER OF<br>CASES INVOLVING<br>PERSONAL<br>PARTICIPATION<br>C | COMMENTS<br>(Additional information or comments may<br>be submitted in duplicate on separate sheets.)<br>D |
|----------------------|---|--|--|
| I-131<br>or<br>I-125 | DIAGNOSIS OF THYROID FUNCTION                     | 3  |  |
|                      | DETERMINATION OF BLOOD AND BLOOD PLASMA VOLUME    |  |  |
|                      | LIVER FUNCTION STUDIES                            |  |  |
|                      | FAT ABSORPTION STUDIES                            |  |  |
|                      | KIDNEY FUNCTION STUDIES                           | 8  |  |
|                      | IN VITRO STUDIES                                  |  |  |
| OTHER                |   |  |  |
| I-125                | DETECTION OF THROMBOSIS                           |  |  |
| I-131                | THYROID IMAGING                                   |  |  |
| P-32                 | EYE TUMOR LOCALIZATION                            |  |  |
| Se-75                | PANCREAS IMAGING                                  | 1  |  |
| Yb-169               | CISTERNOGRAPHY                                    | 1  |  |
| Xe-133               | BLOOD FLOW STUDIES AND PULMONARY FUNCTION STUDIES | 5  |  |
| OTHER                |   |  |  |
| Tc-99m               | BRAIN IMAGING & Flow                              | 104 + 99   |  |
|                      | CARDIAC IMAGING                                   | 11   |  |
|                      | THYROID IMAGING                                   | 5  |  |
|                      | SALIVARY GLAND IMAGING                            |  |  |
|                      | BLOOD POOL IMAGING                                |  |  |
|                      | PLACENTA LOCALIZATION                             |  |  |
|                      | LIVER AND SPLEEN IMAGING & Flow                   | 108  |  |
|                      | LUNG IMAGING V/Q                                  | 44   |  |
|                      | BONE IMAGING                                      | 41   |  |
| OTHER                | Cardiac Muga                                      | 3  |  |

## 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. APPLICANT PHYSICIAN'S NAME AND ADDRESS |       | KEY TO COLUMN C  |
|---|-------|--|
| FULL NAME                                 |       | PERSONAL PARTICIPATION SHOULD CONSIST OF:  |
| JAD MICHEL GENNAOLI                       |       | 1-Supervised examination of patients to determine the suitability for radioisotope diagnosis and/or treatment and recommendation for prescribed dosage.                      |
| STREET ADDRESS                            |       | 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. |
| 12931 HUNTERCREEK Rd                      |       | 3-Adequate period of training to enable physician to manage radioactive patients and follow patients through diagnosis and/or course of treatment.                           |
| CITY                                      | STATE | ZIP CODE   |
| ST LOUIS                                  | MO.   | 63131  |

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

| ISOTOPE<br>A         | CONDITIONS DIAGNOSED OR TREATED<br>B                 | NUMBER OF<br>CASES INVOLVING<br>PERSONAL<br>PARTICIPATION<br>C | COMMENTS<br>(Additional information or comments may<br>be submitted in duplicate on separate sheets.)<br>D |
|----------------------|--|--|--|
| I-131<br>or<br>I-125 | DIAGNOSIS OF THYROID FUNCTION                        | 2  |  |
|                      | DETERMINATION OF BLOOD AND<br>BLOOD PLASMA VOLUME    |  |  |
|                      | LIVER FUNCTION STUDIES                               |  |  |
|                      | FAT ABSORPTION STUDIES                               |  |  |
|                      | KIDNEY FUNCTION STUDIES                              |  |  |
|                      | IN VITRO STUDIES                                     |  |  |
| OTHER                |  |  |  |
| I-125                | DETECTION OF THROMBOSIS                              |  |  |
| I-131                | THYROID IMAGING                                      | 1  |  |
| P-32                 | EYE TUMOR LOCALIZATION                               |  |  |
| Se-75                | PANCREAS IMAGING                                     |  |  |
| Yb-169               | CISTERNOGRAPHY                                       | 1  |  |
| Xe-133               | BLOOD FLOW STUDIES AND<br>PULMONARY FUNCTION STUDIES |  |  |
| OTHER                |  |  |  |
| Tc-99m               | BRAIN IMAGING  | 132  |  |
|                      | CARDIAC IMAGING                                      | 9  |  |
|                      | THYROID IMAGING                                      | 8  |  |
|                      | SALIVARY GLAND IMAGING                               | 2  |  |
|                      | BLOOD POOL IMAGING                                   |  |  |
|                      | PLACENTA LOCALIZATION                                |  |  |
|                      | LIVER AND SPLEEN IMAGING                             | 113  |  |
|                      | LUNG IMAGING   | 45   |  |
|                      | BONE IMAGING   | 52   |  |
| OTHER                |  |  |  |

CONTROL NO. 05241

# PRECEPTOR STATEMENT (Continued)

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

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

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

Period of 11-16-77 to 12-31-77

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

a. NAME OF SUPERVISOR

JOHN L. BIRCHER, M.D.

b. NAME OF INSTITUTION

ST. LOUIS CITY HOSPITAL

c. MAILING ADDRESS

1515 LAFAYETTE AVE

d. CITY

ST. LOUIS, MO. 63104

## 5. MATERIALS LICENSE NUMBER(S)

24-00061-04

## 6. PRECEPTOR'S SIGNATURE

*[Signature]*

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

JOHN L. BIRCHER, M.D.

## 8. DATE

11 JUNE 1981



## EXPERIENCE IN NUCLEAR MEDICINE

### A. Clinical Experience

1. John Cochran V.A. Medical Center  
October-November 1977 Dr. Fletcher Dr. 230 hrs.
2. St. Louis City Hospital  
November-December 1977 Dr. Bircher 230 hrs.
3. St. Anthony's Medical Center  
July 1980 to May 1981 360 hrs.

### B. Didactic Training

1. St. Louis University Hospital  
Mathematics and Physics of Radiation 2 hr wk. 110 hrs.  
Dr. Nalesnik  
October 1976 to July 1977
2. St. Louis University Hospital  
Physics of Isotopes 2 hr.wk. 50 hrs.  
July 1977 to Jan. 1978
3. John Cochran V.A. Medical Center  
Dr. Donati Dr. Fletcher 2 hr.wk. 24 hrs.  
Dr. Hernandez - Pol  
Radiopharmaceuticals Clinical Applications  
Jan. 1978 - March 1978
4. St. Louis University 12 hrs.  
Dr. Nalesnik  
Radiobiology  
March 1978 - mid April 1978
5. St. Louis University 3 hr. wk. 24 hrs.  
Physics Review Course with Dr. Nalesnik  
Board preparation  
Mid April 1978 to June 10, 1978
6. St. Louis University 1 hr wk 20 hrs.  
Radiology lectures: Nuclear Medicine series  
July 1978 to May 1979

TRAINING AND EXPERIENCE  
AUTHORIZED USER OR RADIATION SAFETY OFFICER

|   |  |
|---|--|
| 1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER<br>Edward W. Szoko, M.D. | 2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE MO. |
|---|--|

| 3. CERTIFICATION     |               |                               |
|----------------------|---------------|-------------------------------|
| SPECIALTY BOARD<br>A | CATEGORY<br>B | MONTH AND YEAR CERTIFIED<br>C |
| Diagnostic Radiology |               | 6/81                          |

| 4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES        |   |   |  |
|---|---|---|--|
| FIELD OF TRAINING<br>A  | LOCATION AND DATE(S) OF TRAINING<br>B   | TYPE AND LENGTH OF TRAINING                       |  |
|   |   | LECTURE/<br>LABORATORY<br>COURSES<br>(Hours)<br>C | SUPERVISED<br>LABORATORY<br>EXPERIENCE<br>(Hours)<br>D |
| a. RADIATION PHYSICS AND INSTRUMENTATION                              | University of Missouri Health Sciences Center (7/78-6/81)<br>Columbia, Missouri 65201 | 250 hrs/<br>2 hrs                                 | 2 hrs  |
| b. RADIATION PROTECTION   | University of Missouri Health Sciences Center (7/78-6/81)<br>Columbia, Missouri 65201 | 40 hrs  | -----  |
| c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY | University of Missouri Health Sciences Center (7/78-6/81)<br>Columbia, Missouri 65201 | 50 hrs  | -----  |
| d. RADIATION BIOLOGY  | University of Missouri Health Sciences Center (7/78-6/81)<br>Columbia, Missouri 65201 | 40 hrs  | -----  |
| e. RADIOPHARMACEUTICAL CHEMISTRY                                      | University of Missouri Health Sciences Center (7/78-6/81)<br>Columbia, Missouri 65201 | 50 hrs  | -----  |

| 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-131  | 200mCi         | University of Missouri Health Sciences Center             | 3 months during                   | Rx for metastatic thyroid cancer |
| I-123  | 400µCi         | Harry S. Truman V.A. Hospital<br>Columbia, Missouri 65201 | 3 year Radiology training program | Thyroid imaging                  |
| Tc-99m   | 20mCi          |   | Brain imaging                     |                                  |
| Ga-67  | 6mCi           |   | Whole Body Image                  |                                  |
| Xe-133   | 10mCi          |   | Lung image                        |                                  |
| Tl-201   | 1.5mCi         |   | Heart image                       |                                  |
| Yb-169   | 1mCi           |   | Cisternogram                      |                                  |

# 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<br>(Additional information or comments may be submitted in duplicate on separate sheets.) |
|-----------------------|---|--|--|
| A                     | B   | C  | D  |
| P-32<br>(Soluble)     | TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA, AND BONE METASTASES | 0  |  |
| P-32<br>(Colloidal)   | INTRACAVITARY TREATMENT                                       | 0  |  |
| I-131                 | TREATMENT OF THYROID CARCINOMA                                | 3  |  |
|                       | TREATMENT OF HYPERTHYROIDISM                                  | 10   |  |
| Au-198                | INTRACAVITARY TREATMENT                                       | 0  |  |
| Co-60<br>or<br>Cs-137 | INTERSTITIAL TREATMENT  | 0  |  |
|                       | INTRACAVITARY TREATMENT                                       | 0  |  |
| I-125<br>or<br>Ir-192 | INTERSTITIAL TREATMENT  | 0  |  |
|                       | TELETHERAPY TREATMENT   | 0  |  |
| Sr-90                 | TREATMENT OF EYE DISEASE                                      | 0  |  |
|                       | RADIOPHARMACEUTICAL PREPARATION                               |  |  |
| Mo-99/<br>Tc-99m      | GENERATOR   | 25   |  |
| Sn-113/<br>In-113m    | GENERATOR   | -----  |  |
| Tc-99m                | REAGENT KITS  | 30   |  |
| Other                 |   |  |  |
| Tc-99m                | PIPIDA Gallbladder  | 43   |  |
| Ga-67                 | Whole Body  | 63   |  |
| Tl-201                | Heart   | 8  |  |
| Tc-99m<br>(MAA)       | Venogram  | 11   |  |

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

7/1/78 - 6/30/81

660 hours

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

a. NAME OF SUPERVISOR

Richard A. Holmes, M.D.

b. NAME OF INSTITUTION

University of Missouri Med Center

c. MAILING ADDRESS

Department of Radiology

d. CITY

Columbia, Missouri 65201

e. MATERIALS LICENSE NUMBER(S)

24-152-35; 24-513-32

## 5. PRECEPTOR'S SIGNATURE

Richard A. Holmes, M.D.

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

Richard A. Holmes, M.D.

## 8. DATE

June 30, 1981

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. APPLICANT PHYSICIAN'S NAME AND ADDRESS |          | <b>KEY TO COLUMN C</b><br><b>PERSONAL PARTICIPATION SHOULD CONSIST OF:</b><br>1-Supervised examination of patients to determine the suitability for radioisotope diagnosis and/or treatment and recommendation for prescribed dosage.<br>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.<br>3-Adequate period of training to enable physician to manage radioactive patients and follow patients through diagnosis and/or course of treatment. |
| FULL NAME                                 |          |   |
| Edward W. Szoko, M.D.                     |          |   |
| STREET ADDRESS                            |          |   |
| St. Anthony's Medical Center              |          |   |
| 10010 Kennerly Road                       |          |   |
| CITY                                      | STATE    | ZIP CODE  |
| St. Louis                                 | Missouri | 63128   |

2. CLINICAL TRAINING AND EXPERIENCE OF ABOVE NAMED PHYSICIAN

| ISOTOPE<br>A         | CONDITIONS DIAGNOSED OR TREATED<br>B                 | NUMBER OF<br>CASES INVOLVING<br>PERSONAL<br>PARTICIPATION<br>C | COMMENTS<br>(Additional information or comments may<br>be submitted in duplicate on separate sheets.)<br>D |
|----------------------|--|--|--|
| I-131<br>or<br>I-125 | DIAGNOSIS OF THYROID FUNCTION                        | 58   |  |
|                      | DETERMINATION OF BLOOD AND<br>BLOOD PLASMA VOLUME    | 5  |  |
|                      | LIVER FUNCTION STUDIES                               | 0  |  |
|                      | FAT ABSORPTION STUDIES                               | 0  |  |
|                      | KIDNEY FUNCTION STUDIES                              | 125  |  |
|                      | IN VITRO STUDIES                                     | 0  |  |
| OTHER                | I-131 Whole Body Scan                                | 12   |  |
| I-125                | DETECTION OF THROMBOSIS                              | 3  |  |
| I-131                | THYROID IMAGING                                      | 5  |  |
| P-32                 | EYE TUMOR LOCALIZATION                               | 0  |  |
| Se-75                | PANCREAS IMAGING                                     | 0  |  |
| Yb-169               | CISTERNOGRAPHY                                       | 5  |  |
| Xe-133               | BLOOD FLOW STUDIES AND<br>PULMONARY FUNCTION STUDIES | 33   |  |
| OTHER                | I-123 Thyroid imaging                                | 40   |  |
| Tc-99m               | BRAIN IMAGING  | 92   |  |
|                      | CARDIAC IMAGING                                      | 23   |  |
|                      | THYROID IMAGING                                      | 3  |  |
|                      | SALIVARY GLAND IMAGING                               | 1  |  |
|                      | BLOOD POOL IMAGING                                   | 83   |  |
|                      | PLACENTA LOCALIZATION                                | 0  |  |
|                      | LIVER AND SPLEEN IMAGING                             | 216  |  |
|                      | LUNG IMAGING   | 61   |  |
|                      | BONE IMAGING   | 250  |  |
| OTHER                |  |  |  |