

APPLICATION FOR MATERIAL LICENSE

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.

FEDERAL AGENCIES FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS
WASHINGTON, DC 20545

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION I
NUCLEAR MATERIAL SECTION 8
831 PARK AVENUE
KING OF PRUSSIA, PA 19380

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION II
MATERIAL RADIATION PROTECTION SECTION
101 MARIETTA STREET, SUITE 2000
ATLANTA, GA 30333

IF YOU ARE LOCATED IN:

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION III
MATERIALS LICENSING SECTION
790 ROOSEVELT ROAD
GLEN ELLYN, IL 60137

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
MATERIAL RADIATION PROTECTION SECTION
811 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TX 76011

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION V
MATERIAL RADIATION PROTECTION SECTION
1480 MARIA LANE, SUITE 210
BALDWIN CREEK, CA 94606

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

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

☐ A. NEW LICENSE

☐ B. AMENDMENT TO LICENSE NUMBER

☒ C. RENEWAL OF LICENSE NUMBER 33-17087-01

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

St. Mary's Hospital
305 S. Fifth
P.O. Box 232
Enid, Oklahoma 73702-0232

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

305 South Fifth Street
Enid, Oklahoma

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Max Kubik

TELEPHONE NUMBER
(405) 233-3843

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 AND EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSE FEE (See 10 CFR 170 and Section 170.31) AMOUNT
FEE CATEGORY 7b Renewal ENCLOSED \$ Submitted

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 REGULATION 170 PARTS 20, 32, 33, 34, 36, 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.

SIGNATURE - CERTIFYING OFFICER

TYPED/PRINTED NAME

TITLE

DATE

Marv T. Brasseaux

Marv T. Brasseaux

Administrator

10 Aug 87

14. VOLUNTARY ECONOMIC DATA

A. ANNUAL RECEIPTS

< \$250K
\$250K - \$500K
\$500K - \$750K
\$750K - \$1M
\$1M - \$1.5M
\$1.5M - \$2M
\$2M - \$2.5M
\$2.5M - \$3M
\$3M - \$3.5M
\$3.5M - \$4M
\$4M - \$4.5M
\$4.5M - \$5M
\$5M - \$5.5M
\$5.5M - \$6M
\$6M - \$6.5M
\$6.5M - \$7M
\$7M - \$7.5M
\$7.5M - \$8M
\$8M - \$8.5M
\$8.5M - \$9M
\$9M - \$9.5M
\$9.5M - \$10M
> \$10M

B. NUMBER OF EMPLOYEES (Enter for entire facility excluding outside contractors)

1. NUMBER OF BEC
2. NUMBER OF NON-BEC

3. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Under separate cover) ON THE ECONOMIC IMPACT OF CURRENT NRC REGULATIONS OR ANY FUTURE PROPOSED NRC REGULATIONS THAT MAY AFFECT YOU? (NRC regulations permit it to protect confidential commercial or financial proprietary information furnished to the agency in confidence.)

YES

NO

FOR NRC USE ONLY

TYPE OF FEE

FEE LOG

FEE CATEGORY

COMMENTS

APPROVED BY

AMOUNT RECEIVED

CHECK NUMBER

DATE

for fee info see ltr rec'd 4/6/87

8801220327 870831
REG4 LIC30
35-17087-01 PDR

ST. MARY'S HOSPITAL

| Byproduct Material | Amount | Purpose |
|----------------------------------|-----------------|----------------------|
| 5a. Material in Paragraph 31.11 | As needed | 6a. In Vitro Testing |
| 5b. Material in Paragraph 35.100 | As needed | 6b. Medical Use |
| 5c. Material in Paragraph 35.200 | As needed | 6c. Medical Use |
| 5d. Material in Paragraph 35.300 | As needed | 6d. Medical Use |
| 5e. Material in Paragraph 35.400 | 100 Millicuries | 6e. Medical Use |
| 5f. CS-137 | 1 Millicurie | 6f. Medical Use |

7. Those physicians previously authorized on this license (35-17087-01).
Debra Mitchell, M.D., 5a., 5b., 5c., 5d., 5f..
Max Kubik, M.S., RSO, previously authorized on this license (35-17087-01).

8.1 "We will establish and implement the model training program that was published in Appendix A to Regulatory Guide 10.8, Revision 2, and append a table ATT 8.1 that identifies the groups of workers, who will receive training and the method of training." (Table Attached).

9.1 Enclosed with Application.

9.2 "We will use an NRC approved consultant, (Bhagwat D. Ahluwalia, P.O. Box 26901, Oklahoma City, Oklahoma, (OU Health Sciences Center), whose procedures and sources are on file in License No. 35-03176-01."

9.3 "We will establish and implement the model procedure for calibrating our dose calibrator that was published in Appendix C to Regulatory Guide 10.8, Revision 2."

9.4 "We will establish and implement the model personnel external exposure monitoring program published in Appendix D. to Regulatory Guide 10.8, Revision 2."

9.5 N/A

9.6 N/A

- 10.1 "We will establish and implement the model procedures for establishing and operating a Radiation Safety Committee that was published in Appendix F to Regulatory Guide 10.8, Revision 2."
- 10.2 "We will establish and implement the model ALARA program that was published in Appendix G to Regulatory Guide 10.8, Revision 2." ALARA Statement Attached.
- 10.3 "We will establish and implement the model procedure for leak-testing sealed sources that was published in Appendix H to Regulatory Guide 10.8, Revision 2."
- 10.4 "We will establish and implement the model safety rules published in Appendix I to Regulatory Guide 10.8, Revision 2."
- 10.5 "We will establish and implement the model spill procedures published in Appendix J to Regulatory Guide 10.8, Revision 2."
- 10.6 "We have developed a procedure for ordering and receiving radioactive material for your review that is appended in ATT 10.6."
- 10.7 "We will establish and implement the model procedure for opening packages that was published in Appendix L to Regulatory Guide 10.8, Revision 2."
- 10.8 "We will establish and implement the model procedure for a unit dosage record system that was published in Appendix M.1 to Regulatory Guide 10.8, Revision 2."
- 10.9 "We will establish and implement the model procedure for a multidose vial record system that was published in Appendix M.2 to Regulatory Guide 10.8, Revision 2."

- 10.10 "We will establish and implement the model procedure for measuring and recording molybdenum concentration that was published in Appendix M.3 to Regulatory Guide 10.8, Revision 2."
- 10.11 "We have developed a procedure for keeping an inventory of implant sources for your review that is appended as ATT 10.11."
- 10.12 "We will establish and implement the model procedure for area surveys that was published in Appendix N to Regulatory Guide 10.8, Revision 2."
- 10.13 "We will collect spent noble gas in a shielded trap and monitor the trap effluent with an air contamination monitor that we will check regularly according to the manufacturer's instructions."
- 10.14 "We will establish and implement the model procedure for radiation safety during radiopharmaceutical therapy that was published in Appendix P to Regulatory Guide 10.8, Revision 2."
- 10.15 "We will establish and implement the model procedure for radiation safety during implant therapy that was published in Appendix Q to Regulatory Guide 10.8, Revision 2."
- 10.16 N/A
- 11.1 "We will establish and implement the general guidance and model procedures for waste disposal that were published in Appendix R to Regulatory Guide 10.8, Revision 2."
- 11.2 N/A

FORM NRC-313M-SUPPLEMENT A

U.S. NUCLEAR REGULATORY COMMISSION

(8-78)

TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER

DEBRA MITCHELL, M.D.

2. STATE OR TERRITORY IN
WHICH LICENSED TO
PRACTICE MEDICINE

OKLA

3. CERTIFICATION

SPECIALTY BOARD

A

CATEGORY

B

MONTH AND YEAR CERTIFIED

C

American Board of Radiology Diagnostic Radiology

June 1986

4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

| FIELD OF TRAINING A | LOCATION AND DATE (S) OF TRAINING B | TYPE AND LENGTH OF TRAINING | |
|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------|
| | | LECTURE/ LABORATORY COURSES (Hours) C | SUPERVISED LABORATORY EXPERIENCE (Hours) D |
| Six months training program nuclear medicine approved by Accreditation Council for Graduate Medicine Education as identified in 10CFR35.920. | University of Oklahoma Health Sciences Center Dept of Radiological Sciences | 60 | 50 |
| a. RADIATION PHYSICS AND INSTRUMENTATION | " " | 8 | 30 |
| b. RADIATION PROTECTION | " " | 10 | 10 |
| c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY | " " | 12 | 20 |
| d. RADIATION BIOLOGY | " " | 10 | 20 |
| e. RADIOPHARMACEUTICAL CHEMISTRY | " " | | |

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

| ISOTOPE | MAXIMUM AMOUNT | WHERE EXPERIENCE WAS GAINED | DURATION OF EXPERIENCE | TYPE OF USE |
|---------|----------------|--------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------|
| 99mTc | 1.7 Ci | University of OK Health Sciences Ctr V.A. Medical Center OK Teaching Hospital & Nuclear Pharmacy | Six Months | Diagnostic & Therapeutic |
| 99Mo | 2.0 Ci | | | |
| 131 I | 200 mCi | | | |
| 201 Tl | 3 mCi | | | |
| 133 Xe | 20 mCi | | | |
| 32 P | 15 mCi | | | |
| 169 Yb | 0.5 mCi | | | |
| 67 Ga | 5 mCi | | | |

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 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. |
| FULL NAME | | |
| DEBRA MITCHELL, M.D. | | |
| STREET ADDRESS | | |
| Dept of Radiology, Bass Memorial Hospital | | |
| P.O. Box 3168 | | |
| CITY | STATE | ZIP CODE |
| Enid | OK | 73702 |

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 sheets.) D |
|----------------------|------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| I-131 or I-125 | DIAGNOSIS OF THYROID FUNCTION | 23 | |
| | DETERMINATION OF BLOOD AND BLOOD PLASMA VOLUME | 6 | |
| | LIVER FUNCTION STUDIES | | |
| | FAT ABSORPTION STUDIES | | |
| | KIDNEY FUNCTION STUDIES | 21 | |
| | IN VITRO STUDIES | | |
| OTHER | | | |
| I-125 | DETECTION OF THROMBOSIS | | |
| I-131 | THYROID IMAGING | 15 | |
| P-32 | EYE TUMOR LOCALIZATION | | |
| Se-75 | PANCREAS IMAGING | | |
| Yb-169 | CISTERNOGRAPHY | | |
| Xe-133 | BLOOD FLOW STUDIES AND PULMONARY FUNCTION STUDIES | 6 | |
| OTHER | | | |
| Tc-99m | BRAIN IMAGING | 9 | |
| | CARDIAC IMAGING | 245 | |
| | THYROID IMAGING | 46 | |
| | SALIVARY GLAND IMAGING | 3 | |
| | BLOOD POOL IMAGING | 75 | |
| | PLACENTA LOCALIZATION | | |
| | LIVER AND SPLEEN IMAGING | 76 | |
| | LUNG IMAGING | 33 | |
| | BONE IMAGING | 253 | |
| 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 (Soluble) | TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA, AND BONE METASTASES | 3 | #1. A 99mTc generator was eluted 10 times and on each elution the eluate was measured for 99mTc activity and 99Mo contamination. |
| P-32 (Colloidal) | INTRACAVITARY TREATMENT | 2 | |
| I-131 | TREATMENT OF THYROID CARCINOMA | 4 | |
| | TREATMENT OF HYPERTHYROIDISM | 11 | |
| Au-198 | INTRACAVITARY TREATMENT | | |
| Co-60 or Cs-137 | INTERSTITIAL TREATMENT | | |
| | INTRACAVITARY TREATMENT | | |
| I-125 or Ir-192 | INTERSTITIAL TREATMENT | | |
| | TELETHERAPY TREATMENT | | |
| Sr-90 | TREATMENT OF EYE DISEASE | | |
| | RADIOPHARMACEUTICAL PREPARATION | | #2. Five types of kits were prepared including, MDP, Tc-99m, MAA, Phosphosphate and DTPA. For each kit the amount of activity was measured and the Q.C. for each preparation was evaluated. |
| Mo-99/ Tc-99m | GENERATOR | See #1 | |
| Sn-113/ In-113m | GENERATOR | | |
| Tc-99m | REAGENT KITS | See #2 | |
| Other | | | |

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

Diagnostic Radiology Residency. Jan 1, 1983 - Dec 31, 1987.
Diagnostic Imaging which includes 6 months of Nuclear Medicine
July 1, 1984 to June 30, 1985. Total nuclear medicine training
greater than 1000 hours.

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

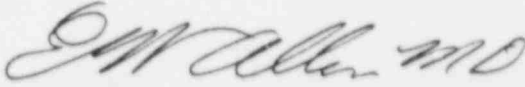
| | |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| a. NAME OF SUPERVISOR E. W. Allen, M.D. | 5. PRECEPTOR'S SIGNATURE  |
| b. NAME OF INSTITUTION University of OK H.S.C. | |
| c. MAILING ADDRESS P.O. Box 26901 | |
| d. CITY Oklahoma City, OK 73190 | 7. PRECEPTOR'S NAME (Please type or print) E. W. Allen, M.D. |
| e. MATERIALS LICENSE NUMBER(S) 35-21395-01 OK Teaching Hospitals | 8. DATE 23 March 1987 |

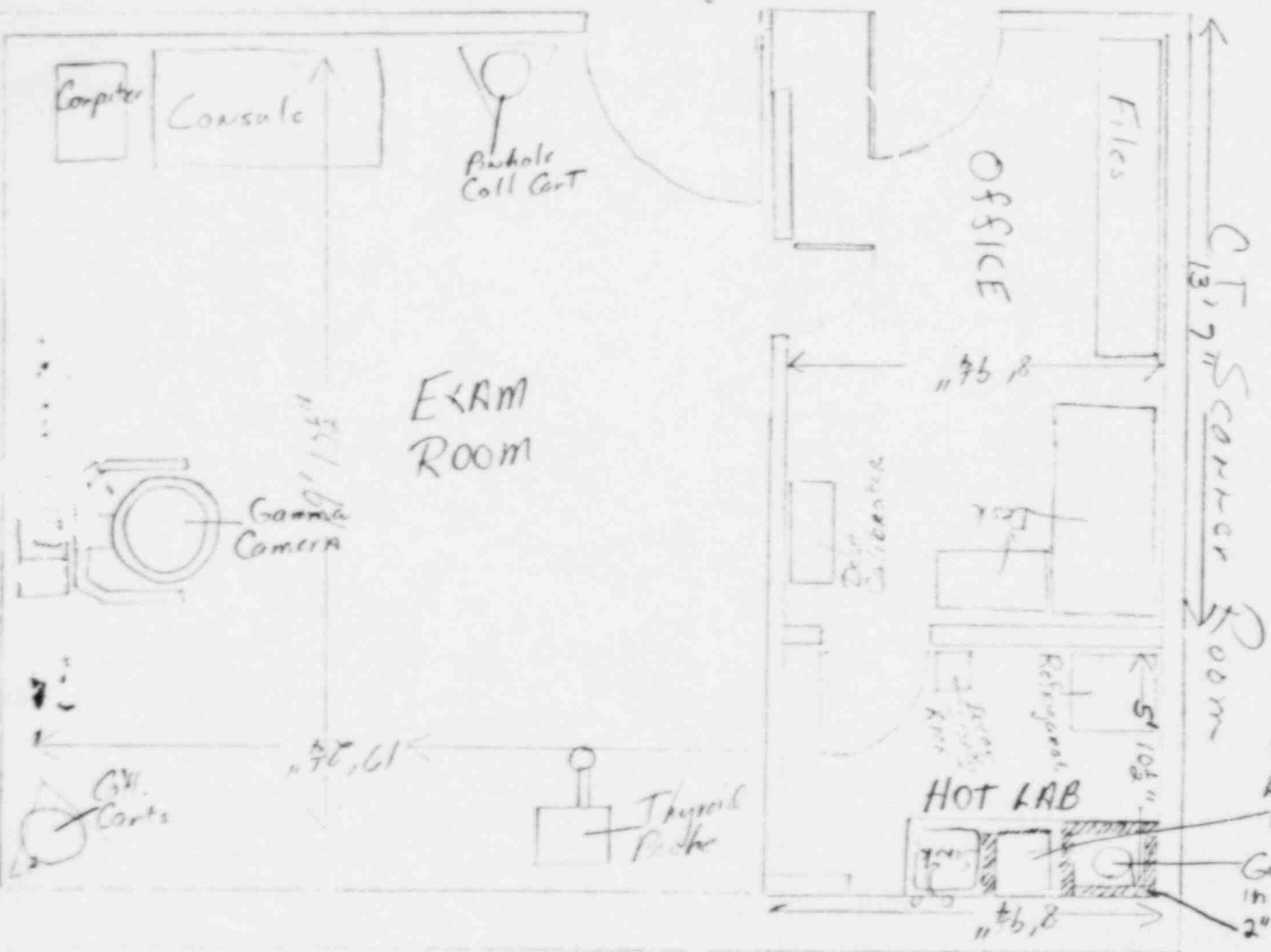
TABLE ATTACHMENT 8.1

| PERSONNEL | METHOD |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Technologists (Regular NM or RT authorized to perform NM studies in absence of NM Tech.) | Lecture and/or Demonstration |
| Ancillary Department of Radiology Department | Lecture |
| Housekeeping | Demonstration (Tour with important aspects indicated). |
| Security | Demonstration (Tour with important aspects indicated). |

Attachment 9.1



Biological Fite Room



CT Scanner Room

Lead L-block Work Area

Generator in shield

2" Lead brick

Outside Wall

Outside Wall

Hall Way

1/4" to 1' Scale

Elevator

RADIOACTIVE STORAGE AREA

Generator Storage Area

Hall Way

9' Trash Room

ATTACHMENT 10.6

Ordering and Receiving Radioactive Material

1. The Radiation Safety Officer's sole designate must authorize each order for radioactive materials and ensure that the requested materials and quantities are authorized by the license and that possession limits are not exceeded.
2. The RSO's sole designate will establish and maintain a system for ordering and receiving radioactive material. The system must contain the following information:
 - a. For routinely used materials
 - (1) Written records that identify the authorized user or department, isotope, chemical form, activity, and supplier will be made.
 - (2) The above records will be checked to confirm that material received was ordered through proper channels.
 - b. For occasionally used materials (e.g. therapeutic dosages)
 - (1) The authorized user who will perform the procedure will make a written request that indicates the isotope, compound, activity and supplier.
 - (2) The authorized user who receives the material will check the physician's written request to confirm that the material received is what was ordered.
3. For deliveries during normal working hours, the RSO's sole designate will tell carriers to deliver radioactive packages directly to a specified area.
4. For deliveries during off-duty hours, the RSO's sole designate will tell security personnel or other designated persons to accept delivery of radioactive packages in accordance with procedures outlined in the sample memorandum below.

ATTACHMENT 10.6

Sample Memorandum

MEMO TO: Chief of Security

FROM: Chief Nuclear Medicine Technologist

SUBJECT: Receipt of Packages Containing Radioactive Material

The security guard on duty shall sign for any packages containing radioactive material that arrive during other than normal working hours. Packages should be placed on a cart or wheelchair and taken immediately to the Nuclear Medicine Department, Room _____. Unlock the door, place the package on top of the counter, and relock the door.

If the package appears to be damaged, immediately contact one of the individuals identified below. Ask the carrier to remain at the hospital until it can be determined that neither the driver nor the delivery vehicle is contaminated.

If you have any questions concerning this memorandum, please call our hospital Chief Nuclear Medicine Technologist, _____, at extension _____.

Radiation Safety Officer: _____ Max Kubik
Chief of Nuclear Medicine: _____
Chief Nuclear Medicine Technologist: _____ David Burke
Nuclear Medicine Technologist on call _____
(call page operator at extension _____)
Nuclear Medicine Physician on call _____
(call page operator at extension _____)

ATTACHMENT 10.11

Procedure for Inventory of Implant Sources

1. Use a locking storage area to store all permanent implant sources.
2. Make a list of names of those individuals you allow to handle implant sources and have them initial beside their names.
3. For short-lived sources that you store in the manufacturer's shipping container, indicate the area in the storage area where you put the container. Also, be sure to add the sources to the inventory log.
4. Post the map and a list of individuals whom you permit to handle the sources in the storage area or on the inventory log.
5. Each time you remove a source, make a record of the number and activity of sources removed, the room number of use or patient's name, the time and date they were removed from storage and initial the record.
6. Each time you return sources to storage, immediately count them to ensure that every source removed has been returned. Then make a record of the number and activity of sources returned, the room number of use or patient's name, the time and date they were returned to storage and initial the record.
7. If you ever perceive a discrepancy between the record and the number of sources in use and in storage, notify the RSO immediately.