

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.

APPLICATIONS FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS
WASHINGTON, DC 20546

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

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

U.S. NUCLEAR REGULATORY COMMISSION, REGION I
NUCLEAR MATERIALS SAFETY SECTION B
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406

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
NUCLEAR MATERIALS SAFETY SECTION
101 MARIETTA STREET, SUITE 2000
ATLANTA, GA 30323

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
799 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
611 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
NUCLEAR MATERIALS SAFETY SECTION
1450 MARIA LANE, SUITE 210
WALNUT CREEK, CA 94596

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

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

- ☐ A. NEW LICENSE
☐ B. AMENDMENT TO LICENSE NUMBER _____
☒ C. RENEWAL OF LICENSE NUMBER 24-18153-01

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

St. Francis Hospital
1802 S. Main
Maryville, MO 64468

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

same as 2.

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Walter G. Dukstein, M. D., RSO

TELEPHONE NUMBER

816-276-4235

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 FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY 7c AMOUNT
ENCLOSED \$120.00

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE
BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS
PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 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

Gregory B. Vinardi

President

Dec 29, 1988

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REG3 LIC30
24-18153-01 PDR

FOR NRC USE ONLY

TYPE OF FEE

APPROVED

FEE CATEGORY

COMMENTS

APPROVED BY

AMOUNT RECEIVED

CHECK NUMBER

DATE

\$1803400/323/1989 CONTROL NO. 86637

1/30/89

Item 5 - RADIOACTIVE MATERIAL and Item 6 - PURPOSE

Table 1

Byproduct Material	Amount	Purpose
5.a Material in \$35.100	As needed	6.a Medical use
5.b Material in \$35.200	As needed	6.b Medical use
5.c Material in \$35.300	less than 30mCi	6.c Medical use

**Item 7. INDIVIDUALS RESPONSIBLE FOR RADIATION SAFETY PROGRAMS --
THEIR TRAINING AND EXPERIENCE**

7.1 Authorized Users for Medical Use

Table 2

Authorized User	Use	Previous or Current License(s)
Walter G. Dukstein, M. D.	5.a,b,c	24-18153-01 & 24-18625-01
William E. White, M. D.	5.a,b,c	24-18153-01 & 24-18625-01
Allan D. Ahlschier, M. D.	5.a,b	24-18153-01 & 24-18210-01

7.2 Authorized Users for Non-medical Use

None.

7.3 Radiation Safety Officer

Walter G. Dukstein, M. D. - previous licenses listed above.

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

8.1 Training Program

We will establish and implement the model training program that was published in Appendix A to Regulatory Guide 10.8, Revision 2*; Table 3 below identifies the groups of workers who will receive training and the method and frequency of training.

Table 3

Worker group	Method	Frequency
Nuclear Medicine technologist	lecture	twice per year
Radiology technologists	lecture	once per year
Nursing personnel	lecture	once per year
Housekeeping personnel	lecture	once per year
Building service engineer	lecture	once per year

8.2 Other Training Program

Not applicable.

Item 9. FACILITIES AND EQUIPMENT

9.1 Annotated Drawing

An annotated drawing of the Nuclear Medicine Department is appended in ATT 9.1.

9.2 Survey Instrument Calibration

A Victoreen G-M Survey Instrument, Model 496, is the low level meter and a Victoreen Cutie Pie, Model 740-F is the high level survey meter.

Survey instruments are calibrated annually and following repair by

Syncor International Corporation
Medical Services Group
Winchester Business Center
6301 Winchester, Suite 302
Kansas City, MO 64133

Procedures and sources have been approved by NRC and are on file in NRC License No. 24-16617-01MD.

9.3 Dose Calibrator Calibration

The Dose Calibrator is a Capintec, CRC-5. 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 Personnel Monitor Program

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 Imaging Equipment

The gamma camera is a Picker model 615.280 mobile camera. We have developed a procedure for ensuring equipment performance for your review that is appended as ATT 9.5.

9.6 Other Equipment and Facilities

Other equipment used at St. Francis Hospital is:

Table 4

Type of Instrument	Manufacturer	Model No.
Thyroid Uptake System	Picker	628-031
Omni Probe & scaler	Picker	621-929
Mini Scaler	Eberline	MS-2
Low energy gamma probe	Eberline	LEG-1
Xenon gas trap	ADC Medical	Xe-102

Item 10 - RADIATION SAFETY PROGRAM

10.1 Radiation Safety Committee/Radiation Safety Officer

We will issue the model Radiation Safety Committee Charter and Radiation Safety Officer Delegation of Authority that was published in Appendix F to Regulatory Guide 10.8, Revision 2*.

Membership of the Radiation Safety Committee:

Representative of the Administration

Martin Goedken, M. H. A., Vice President of Support Services

Representative of Nursing

Nellie Agyagos, R. N., B. S. N., M. N., Vice President of Patient Care Services

Representative of Radiology

Allan D. Ahlschier, M. D., Radiologist

Representative of Medical Records and Quality Assurance

Geraldine Wiederholt, R. R. A., Director of Medical Administrative Services

Representative of Nuclear Medicine and Hematology and

Radiation Safety Officer

Walter G. Dukstein, M. D.

10.2 ALARA Program

We will establish and implement the model ALARA program that was published in Appendix G to Regulatory Guide 10.8, Revision 2*.

10.3 Leak Testing

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 Safe Use of Radiopharmaceuticals

We will establish and implement the model safety rules published in Appendix I to Regulatory Guide 10.8, Revision 2*.

10.5 Spill Procedures

We will establish and implement the model spill procedures published in Appendix J to Regulatory Guide 10.8, Revision 2*.

10.6 Ordering and Receiving

We will establish and implement the model guidance for ordering and receiving radioactive material that was published in Appendix K to Regulatory Guide 10.8, Revision 2*.

10.7 Opening Packages

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 Unit Dosage Records

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 Multidose Vial Records

Not applicable. Only unit doses are used.

10.10 Molybdenum Concentration Records

Molybdenum concentration tests are performed by Syncor and they maintain the records.

10.11 Implant Source Use Records

Not applicable.

10.12 Area Survey Procedures

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 Air Concentration Control

10.13.1 Worker dose from submersion in noble gases.

We will collect spent noble gas in a shielded container and will establish and implement the model procedure for checking trap effluent that was published in Appendix O.3 to Regulatory Guide 10.8, Revision 2*.

10.13.2 Worker dose from aerosol concentrations

Not applicable.

10.13.3 Estimation of aerosol and gas concentration in effluents.

We will follow the model procedure for calculating air bourn effluent concentration that was published in Appendix O.2 to Regulatory Guide 10.8, Revision 2*.

10.13.4 Calculation of spilled gas clearance times.

We will calculate spilled gas clearance times according to the procedure that was published in Appendix O.4 to Regulatory Guide 10.8, Revision 2*.

10.14 Radiopharmaceutical Therapy

Only radiopharmaceutical therapy which does not require patient hospitalization (less than 30mCi activity) will be performed. Radiopharmaceutical doses will be opened and wiped using the model procedure published in Appendix L to Regulatory Guide 10.8, Revision 2*. The dose will be administered using a "closed" delivery system. The physician administering the dose will have his thyroid burden measured within 3 days in accordance with §35.315(a)(8).

10.15 Implant Therapy

Not applicable.

10.16 Other Safety Procedures

Not applicable.

Item 11 - WASTE MANAGEMENT

11.1 Waste Disposal

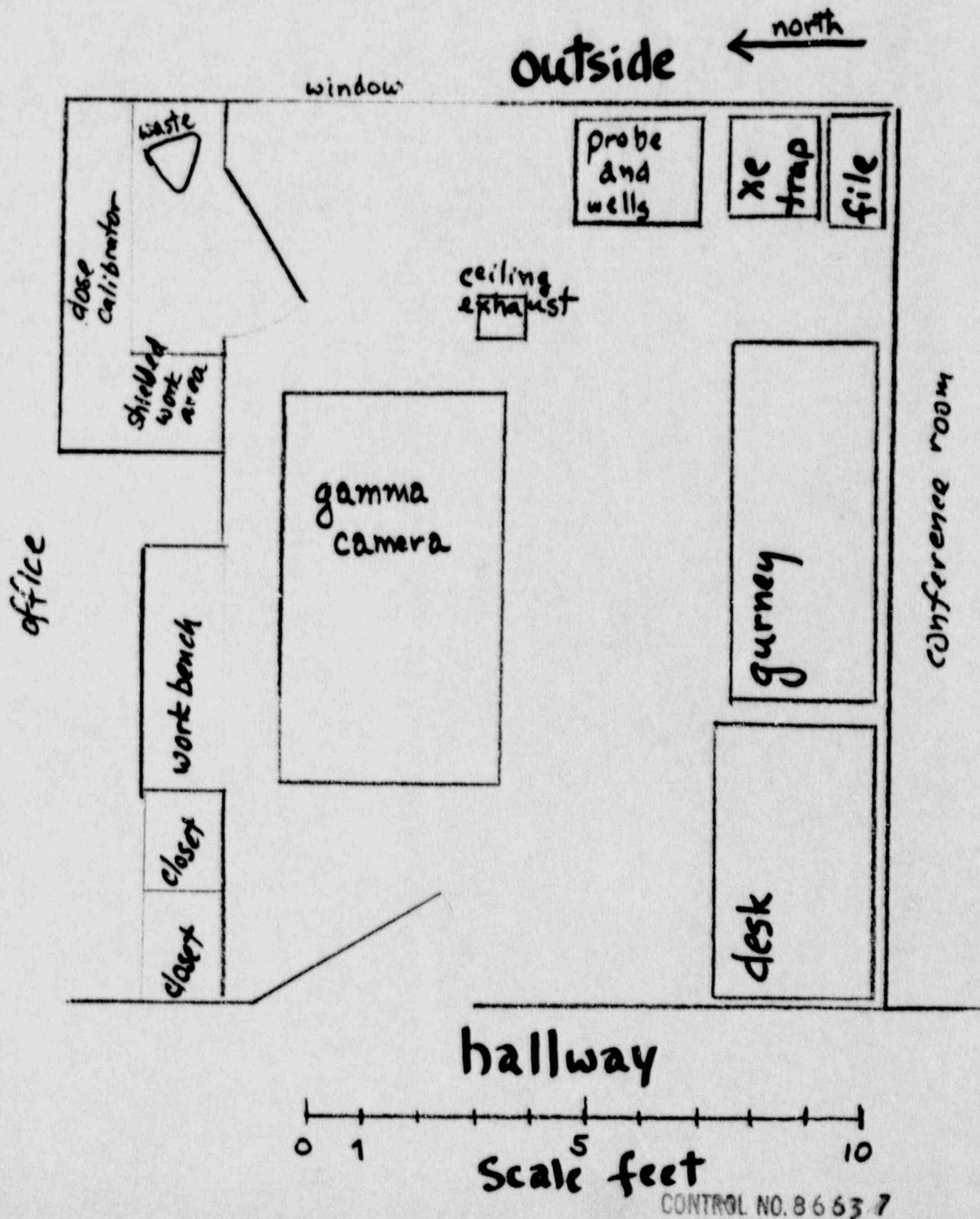
We will establish and implement the general guidance and model procedures for waste disposal that were published in Appendix R to Regulatory Guide 10.8, Revision 2*.

11.2 Other Waste Disposal

Not applicable.

ATT 9.1

Nuclear Medicine St. Francis Hospital



ATT 9.5

Procedure for Checking Equipment which is Transported

Survey Meter

Check the survey meter with a dedicated check source at each location of use. Material may not be used if the survey meter is not working.

Camera

1. Perform the following checks each day when at St. Francis Hospital:
 - a. Peak camera according to the manufacturer's instruction.
 - b. Using either Tc-99m or Co-57, perform an extrinsic flood field with a frequently used collimator in place, or perform an intrinsic flood field test. Accumulate at least 1,000,000 counts. Process the image as if it were an image of a patient.
 - c. Retain each day's flood for at least two years.
2. Perform the following checks weekly:
 - a. With the same frequently used collimator in place, image a flood source and a resolution-quadrant phantom with the flood fields as a source. Orient the resolution-quadrant phantom to an odd angle (i.e., not aligned with either the horizontal or vertical axis) to test both vertical and horizontal geometric linearity.
 - b. Process the images as if they were images of a patient. Mark them clearly to indicate image orientation, source activity, and date.
3. Perform the following safety checks after repairs and quarterly:
 - a. Check the motion interlocks by activating the emergency-off switches on the camera. With the camera in motion, activation of the emergency-off switch should stop the motion.
 - b. Check the motion switches. Put the camera in motion and first release just the direction switch to stop the motion. Then put the camera back in motion and release just the dead-man switch. Test all motion switches and all directions in this manner. Release of either the motion switch or the dead-man switch alone should disable the camera motion. If this is not the case, repair the camera before clinical use.
4. Set the equipment in the same manner each time checks are run. Make a record of all these checks. Retain the record for two years.

JAN 19 1989

St. Francis Hospital
ATTN: Mr. Gregory B. Vinardi
President
2016 South Main
Maryville, MO 64468-2693

Gentlemen:

This refers to your application dated December 29, 1988, for renewal of Materials License 24-18153-01.

We received your check for \$120. Your application, however, is subject to a renewal fee of \$580 as specified in §170.31 (7C) of 10 CFR 170, copy enclosed. Payment of the additional \$460 should be made to the U.S. Nuclear Regulatory Commission and mailed to the attention of Cheryl Phillips at our Washington, D.C. address.

Your application will be processed by the Region III Licensing staff located at 799 Roosevelt Road, Glen Ellyn, Illinois 60137. The additional fee, however, is required prior to issuance of the renewal. When submitting the fee, please refer to CONTROL NUMBER 386637.

Sincerely,

Signed by:
Glenda Jackson

Glenda Jackson
License Fee Management Branch
Division of Accounting and Finance
Office of Administration and
Resources Management

Enclosure:
10 CFR 170

cc: Region III

DISTRIBUTION:

Pending Fee File

CPhillips, LFMB
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LFMB R/F (2)
DW/RIII/STFRAN

OFFICE SURNAME
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CPhillips: kb
01/18/89

ARM/LFMB
GJackson
01/19/89

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