

# APPLICATION FOR MATERIAL LICENSE

030-01242

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

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

U.S. NUCLEAR REGULATORY COMMISSION  
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS  
WASHINGTON, DC 20555

## 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  
631 PARK AVENUE  
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 2900  
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  
1460 MARIA LANE, SUITE 210  
WALNUT CREEK, CA 94596

RECEIVED  
MAR 24 11:44

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 06-00649-03  
☐ C. RENEWAL OF LICENSE NUMBER \_\_\_\_\_

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

Middlesex Memorial Hospital  
28 Crescent Street  
Middletown, CT 06457  
Attn: Joe Wong, Physicist

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

same as above

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

Joe Wong, Physicist

## TELEPHONE NUMBER

203-344-6291

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. LICENSEE FEES (See 10 CFR 170 and Section 170.37)

FEE CATEGORY AMOUNT ENCLOSED \$

## 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. 748 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

*Gordon McWilliams*

Gordon McWilliams

CEO

1-13-88

## 14. VOLUNTARY ECONOMIC DATA

### A. ANNUAL RECEIPTS

< \$250K	\$1M-3.5M
\$250K-500K	\$3.5M-7M
\$500K-750K	\$7M-10M
\$750K-1M	> \$10M

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

0022

### C. NUMBER OF BEDS

14

## D. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Dollar and/or staff hours) 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

## DATE

AMD

Mar. 16

K

*S. Kimbly*

## AMOUNT RECEIVED

## CHECK NUMBER

8120

134407

3/25/88

89040504184

OFFICIAL RECORD COPY

8556  
3-11-88

Amendment to License No: 06-00649-03

<u>Item</u>	<u>Byproduct Material</u>	<u>Amount</u>	<u>Item</u>	<u>Purpose</u>
<u>5a.</u>	Implant material in 35.400(a)	600 mCi	<u>6a.</u>	Medical use
<u>5b.</u>	Implant material in 35.400(d)	200 mCi	<u>6b.</u>	Medical use
<u>5c.</u>	Implant material in 35.400(f)	200 mCi	<u>6c.</u>	Medical use

These implant materials in 35.400 will be used by Allan Silberstein, M.D. and Joseph B. Weissberg, M.D.

Item 7: Radiation Safety Officer: Joe T. Wong, M.S.  
Additional Authorized User: Joseph B. Weissberg, M.D.

\*\* See attachment for training and experience of above.

Item 10: Radiation Safety Committee to consist of following:

Chairman:  
Howard Rosenbaum, M.D.                      Director, Radiology

Members:	
Joe T. Wong, M.S.	Radiation Safety Officer
David Bergman	Assistant Administrator
Sebastian Gallo, M.D.	Director, Laboratory
Allan Silberstein, M.D.	Director, Radiation Therapy
Elaine Gianinni, R.N.	Head Nurse, Nursing Dept.
Linda Pytlik, R.T.N.M.	Nuclear Med. Co-Ordinator

See attached ministerial amendment for changes in the Radiation Safety Program. All other parts remain unchanged from the original application and approved license.

Item 11: Model procedure for Waste Disposal of Appendix R to be followed, except the <sup>125</sup>I in vitro kits which contains less than 10 microCi per kit, which will be allowed to decay for five half-lives (instead of ten) before disposal as in-house waste.

For radioactive implant materials in 35.400 used for temporary implants and unused sources in 35.400(f) for permanent implants, the sources will be returned to the supplier(s) for disposal.

Training and Experience:

Radiation Safety Officer: Joe Tian-Choh Wong.

Education: M.S. in Radiology \* - 1982  
University of Colorado,  
School of Medicine,  
Denver, Colorado.

\* This is a graduate medical and health physics program accredited by the American Association of Physicist in Medicine.

B.S. in Physics - 1980  
California State University,  
Fresno, California.

Diploma of the College of Radiography (Therapy)  
- 1967

School of Radiotherapy,  
M.D. Institute of Radiology,  
Kowloon, Hong Kong.  
School of Radiography,  
Kuala Lumpur, Malaysia.

Experience: Medical Physicist \* - 1982 - 1986  
Medical Physics and Engineering,  
William Beaumont Hospital,  
3601 West Thirteen Mile Road,  
Royal Oak, Michigan 48072.

\* Duties included the calibration of the  $^{60}\text{Co}$  teletherapy machine and linear accelerators,  $^{137}\text{Cs}$  and  $^{192}\text{Ir}$  brachytherapy,  $^{131}\text{I}$  therapy, shielding calculations for brachytherapy suites and linear accelerators, loading and unloading of brachytherapy radionuclides, radiation safety in-service given to residents, nurses and technologists, surveys and other tests mandated by the NRC broad license of the hospital. The Radiation Safety Officer during that period was Norman Horwitz, Ph.D. (NRC license #21-01333-01.)

Physicist Assistant \* - 1980 - 1982  
University of Colorado Health Science Center,  
Denver, Colorado.

\* Calibration and survey duties were performed, procured by William Hendee, Ph.D. and Geoff Ibbott, M.S. Radionuclides used included  $^{99\text{m}}\text{Tc}$ ,  $^{131}\text{I}$ ,  $^{125}\text{I}$ ,  $^{137}\text{Cs}$ ,  $^{60}\text{Co}$ ,  $^{192}\text{Ir}$ ,  $^{90}\text{Sr}$  and  $^{32}\text{P}$ .

(continue next page)



Radiation Safety Officer(cont.):

Chief Technologist \* - 1973 - 1977  
Radiation Oncology Medical Clinic, Inc.,  
Fresno, California.

\* Duties included loading and unloading of brachytherapy radionuclides, leak and wipe tests mandated by the California State license, patient room survey and in-service on radiation safety to nurses. The contract hospitals were Valley Medical Center, St. Agnes Medical Center and Sierra Hospital in Fresno, California. Radionuclides included  $^{131}\text{I}$ ,  $^{137}\text{Cs}$ ,  $^{226}\text{Ra}$  and  $^{90}\text{Sr}$ .

Radiation Safety Officer \* - 1969 - 1970  
General Hospital,  
Kuala Lumpur, Malaysia.

\* Duties included loading and unloading of brachytherapy radionuclides, leak and wipe tests, all radiation safety and in-service to nurses and technologists. The radionuclides used were  $^{131}\text{I}$  and  $^{226}\text{Ra}$ .

Attachment for Item 7:

Page 3 of 3.

Authorized User: Joseph B. Weissberg, M.D.

Previously named authorized user in NRC license #06-008-19-03  
issued to Yale-New Haven Hospital in New Haven, Connecticut.

NRC Ministerial Admendment - Item #13

Following recommendations by the NRC inspector and recent changes in 10CFR35 which went into effect April 1, 1987, the following changes will be made to our procedure concerning the ordering and receiving of radionuclides. The present portions that will be changed are underlined:

Present procedure reads:

Procedures for ordering and receiving radioactive materials at the Middlesex Memorial Hospital are as follows (constituting our established operating policy).

a.) The Chief Nuclear Medicine Organ Imaging Technolgist or Chief Nuclear Medicine Laboratory Technologist must place all orders for radioactive materials, guaranteeing that the requested materials and quantities are authorized by the license and the possession limits are not exceeded.

b.) During normal working hours, carriers must deliver the radioactive materials directly to the Nuclear Medicine Section of the Department of Radiology or the Pathology Department. This procedure is insured by the directions of the security personnel.

c.) The security personnel have been directed to allow the carriers to convey the packages into the hospital if they do not appear to be damaged or wet. If the packages are damaged or wet, they are to notify the Radiation Safety Officer or the Physicist immediately (whether normal or "off duty" hours) while retaining the carrier. When the Radiation Safety officer or the Physicist arrives, he will ascertain the nature of the situation (monitor the package with a survey meter) and take the appropriate action.

If the package is undamaged and delivery is occurring in the "off duty" hours, the security personnel leads the carrier with the package to the locked Nuclear Medicine Section of the Radiology Department where he opens the door to said room, allows the carrier to place the delivery on the counter, signs for the items and leaves, relocking the door to the Nuclear Medicine Section.

A memorandum to the security personnel from the Radiation Safety Officer directing policy with regards to the above-mentioned procedure is enclosed.

The proposed ministerial change is as follows with the changes underlined:

Procedures for ordering and receiving radioactive materials at the Middlesex Memorial Hospital are as follows (constituting our established operating policy).



- a. The Nuclear Medicine Technical Co-Ordinator or his/her designate, or the Laboratory Chemistry Supervisor or his/her designate, will place all orders for radioactive materials, guaranteeing that the requested materials and quantities are authorized by the license and the possession limits are not exceeded. If the order has been placed by the designate, the Nuclear Medicine Technical Co-Ordinator and the Laboratory Chemistry Supervisor will check in each of their respective departments that the requested radionuclides are within quantities and limits as authorized by the license. An initial by the respective co-ordinator/supervisor on the order page will denote that the order has been checked accordingly.
- b. During normal working hours, carriers must deliver the radioactive materials directly to the Nuclear Medicine Section of the Department of Radiology.
- c. The security personnel have been directed to allow the carriers to convey the packages into the hospital if they do not appear to be damaged or wet. If the packages appear damaged or wet, they are to notify the Radiation Safety Officer or his designee immediately (whether normal or "off duty" hours) while retaining the carrier. When the Radiation Safety officer or his designee arrives, s/he will do a wipe test on the package and monitor the package with a survey meter. Appropriate actions will be taken as necessary.

If the package is undamaged and delivery is occurring in the "off duty" hours, the security personnel leads the carrier with the package to the appropriate department where he opens the door to said room, allows the carrier to place the delivery on the counter in the radionuclide dispensing area, signs for the items and leaves, relocking the door.

A memorandum to the security personnel from the Radiation Safety Officer directing the policy with regards to the above-mentioned procedure is enclosed.

The changes also reflects clarification of the procedure.

The additional sentence in sub-section (a) was added to maintain the same standard of checking against exceeding the licensed limits and quantities.

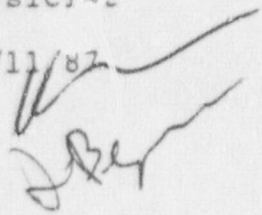
Delivery of radionuclides to the Pathology Department in subsection (b) is eliminated due to the fact that 10CFR35.53 stipulates that the radionuclides to be used on patients must be calibrated somehow, and the dose calibrators are located in the radionuclides dispensing area in Nuclear Medicine.

The requirement of a wipe test in sub-section (c) for packages that "appear" to be damaged is made to describe the appropriate action that will be taken in such an event.

These changes will be in effect as soon as the Radiation Safety Committee passes it, and the NRC will be informed the next time we need to make a major amendment of our license.

Joe T. Wong, MS,  
Physicist

jw/11/87



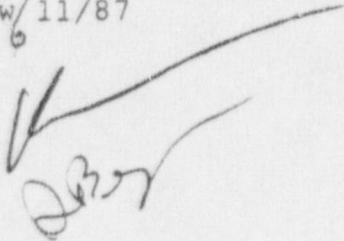


APPENDIX E

PROCEDURE FOR ORDERING AND RECEIVING RADIOACTIVE MATERIALS

1. The Nuclear Medicine Technical Co-Ordinator or his/her designate, or the Laboratory Chemistry Supervisor or his/her designate, will place all orders for radioactive materials, and will ensure that the requested materials and quantities are authorized by the license and the possession limits are not exceeded. If the order has been placed by the designate, the Nuclear Medicine Technical Co-Ordinator and the Laboratory Chemistry Supervisor will check in each of their respective departments that the requested radionuclides are within quantities and limits as authorized by the license. An initial by the respective co-ordinator/supervisor on the order page will denote that the order has been checked accordingly.
2. During normal working hours, carriers will be instructed to deliver the radioactive packages directly to the appropriate department.
3. During off-duty hours, security personnel will accept delivery of the radioactive packages in accordance with the procedures outline in the attached memorandum.

jw/11/87

Handwritten signature and initials, possibly "JW" and "2307", written in dark ink.

MEMORANDUM TO SECURITY PERSONNEL

REGARDING THE ACCEPTANCE OF PACKAGES MARKED RADIOACTIVE

1. Visually,
  - a. Check to see if the package is damaged.
  - b. Check to see if the package is wet.
2. If the package is neither damaged nor wet, escort the carrier to the locked Nuclear Medicine Department. Unlock the door to the department and allow the carrier into the department to deposit the package on the counter in the radionuclide dispensing area.
3. Sign for the item(s) delivered and leave the area with the carrier. Re-lock the department door.
4. If the package(s) appear damaged or wet, detain the carrier. Notify the Radiation Safety Officer, or his designee. If the RSO is unavailable, notify the Chairman of the Radiation Safety Committee. DO NOT allow the carrier to use the telephone. Call his office for him and convey any messages(s) for him to his office. DO NOT allow the carrier to enter any further into the hospital premises.
5. Wait for the arrival of Dr. Rosenbaum or Joe Wong to dispose of the situation.

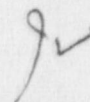
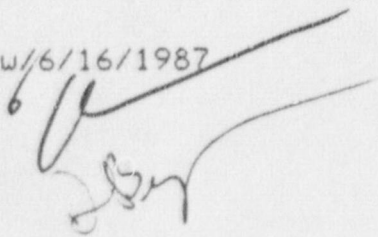
✓11/87



BIOASSAY OF PERSONNEL HANDLING IODINE-131

- 1.) Personnel handling  $^{131}\text{I}$  with an activity of greater than 1.0 mCi must be bioassayed.
- 2.) The thyroid uptake probe will be used in this institution for this purpose.
- 3.) The bioassay will be done at least 6 hours after the initial handling of the radionuclide, and must be completed within 72 hours after this handling.
- 4.) The acceptable threshold thyroid burden for the personnel is as prescribed by NRC Regulatory Guide 8.20 of 0.04 uCi of  $^{131}\text{I}$ .

jw/6/16/1987





BETWEEN:

LICENSE FEE MANAGEMENT, BRANCH, ARM  
AND  
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)  
INFORMATION FROM LTS  
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: PROGRAM CODE: 02120  
: STATUS CODE: 0  
: FEE CATEGORY: 7C  
: EXP. DATE: 19910731  
: FEE COMMENTS: CODE 23  
: .....

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

APPLICANT/LICENSEE: MIDDLESEX MEMORIAL HOSPITAL  
RECEIVED DATE: 880311  
DOCKET NO: 3001242  
CONTROL NO.: 108556  
LICENSE NO.: 06-00649-03  
ACTION TYPE: AMENDMENT

2. FEE ATTACHED

AMOUNT: \$120  
CHECK NO.: 134407

3. COMMENTS

SIGNED DA  
DATE 3/27/88

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED 1✓)

1. FEE CATEGORY AND AMOUNT: 2C \$120

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:

AMENDMENT ✓  
RENEWAL \_\_\_\_\_  
LICENSE \_\_\_\_\_

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

SIGNED J. Kimbrey  
DATE 3/28/88