

**Veterans
Administration**

October 14, 1982



Dr. Francis A. St. Mary
Materials Licensing Branch
Division of Fuel Cycle and
Material Safety
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Dr. St. Mary:

Pursuant to Amendment No. 40 of our NRC License No. 41-00119-08 we moved our Nuclear Medicine Service on October 4, 1982 according to the plan we outlined in our application for Amendment 40. Therefore, we are writing to send the results of the radiation survey performed in the rooms that housed our Nuclear Medicine Service prior to October 4.

The general procedure utilized to perform the radiation survey is as follows. Every room in the Nuclear Medicine Service (including offices and the waiting room) was examined for evidence of fixed and removable contamination. First, we checked for fixed plus removable contamination. The sensitive volume of our Model 2650 Nuclear Chicago survey meter (with the beta shield removed) was passed over the floor and walls of each room, including the waiting room and hallway. The distance from probe to surface was one to two cm. The survey meter was last calibrated on March 17, 1982. In addition, all sink drain traps were surveyed in like manner. The results of the survey revealed no areas that elicited a reading above background (0.05 mR/hr). Attachment A contains a diagram of the physical plant surveyed. Next, 55 wipe tests were performed to note any removable contamination that may be present (37 wipe tests were performed using filter paper and 18 using dressing gauze). The surface area covered per wipe test varied between 1 m² and 100 cm². Each wipe test sample plus background was counted in our Searle Model 1185 gamma well counter. The standard utilized was 0.010 µCi of ¹²⁵I, calibrated on October 1, 1982. All wipe test samples were counted twice. The well counter allows counting to be accomplished on two channels simultaneously. ¹²⁵I and ¹³¹I channel settings were counted during the first count. During the second count the ⁵⁷Co channel setting and a window set manually from 15 keV to infinity were utilized.

Attachment A contains the diagram of the areas evaluated by wipe tests. The results of wipe tests revealed no areas yielding count rates exceeding the values of Table I of the Decontamination Guide.

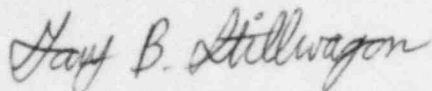
Attachment B is the printout from the well counter. Counting efficiency was 49 percent (see Attachment B). The minimum detectable activity was less than 0.005 µCi, as required.

8507030683 850611
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41-00119-08 PDR

Dr. Francis A. St. Mary
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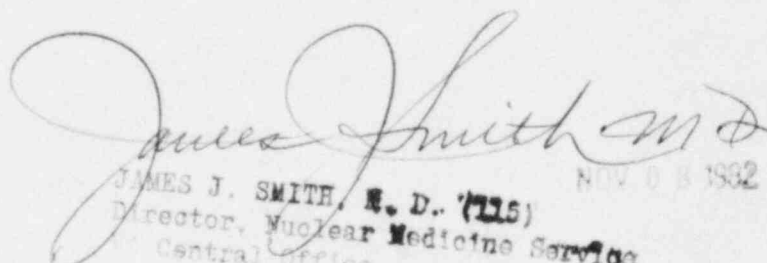
If any questions should arise concerning any facet of the radiation survey, please do not hesitate to contact me. Thank you for your review of this material.

Sincerely,



GARY B. STILLWAGON, Ph.D.
Radiation Safety Consultant

Attachments 2



JAMES J. SMITH, M.D. (715)
Director, Nuclear Medicine Service
Central Office
Washington, D.C. 20420

NOV 0 8 1982

↓
5700

↓
INTEG.
15 KEY-8

10/7/82 Wiper

00179 00100 000023 000073 000000 *Wiper 1*

00180 00100 000012 000072 000000

00181 00100 000015 000076 000000

00182 00100 000025 000087 000000

00183 00100 000018 000065 000000

00184 00100 000019 000065 000000

00185 00100 000017 000064 000000 BACKGROUND

00186 00100 000020 000062 000000

00187 00100 000018 000069 000000

00188 00100 000013 000076 000000

00189 00100 000021 000090 000000

00190 00100 000017 000077 000000

00191 00100 000019 000074 000000

00192 00100 000010 000067 000000

00193 00100 000017 000088 000000

00194 00100 000010 000054 000000

00195 00100 000015 000078 000000

00196 00100 000012 000069 000000

00197 00100 000021 000080 000000

00198 00100 000013 000079 000000

00199 00100 000018 000081 000000

00200 00100 000012 000054 000000

00201 00100 000019 000067 000000

00202 00100 000008 000063 000000

00203 00100 000017 000067 000000

13037

00204 00100 000020 000073 000000

00205 00100 000020 000078 000000

00206 00100 000018 000094 000000

00207 00100 000023 000083 000000

00208 00100 000044 000139 000000

00209 00100 000021 000087 000000

00210 00100 000017 000066 000000

00211 00100 000019 000079 000000

00212 00100 000018 000070 000000

00213 00100 000015 000073 000000

00214 00100 000028 000091 000000

00215 00100 000021 000075 000000

00216 00100 000017 000080 000000

00217 00100 000019 000090 000000

00218 00100 000018 000075 000000

00219 00100 000021 000088 000000

00220 00100 000016 000063 000000

00221 00100 000012 000064 000000

00222 00100 000014 000061 000000

00223 00100 000019 000078 000000

00224 00100 000016 000073 000000

00225 00100 000020 000074 000000

00226 00100 000015 000068 000000

00227 00100 000015 000066 000000

00228 00100 000011 000057 000000

00229 00100 000028 000106 000000

00230 00100 000019 000068 000000

00231 00100 000014 000056 000000

00232 00100 000016 000062 000000

00233 00100 000014 000060 000000

$$\rightarrow 139\text{cpm} - 66\text{cpm} = 73\text{cpm}/\text{m}^2$$

$$\frac{73\text{cpm}}{0.49\text{cpm/dpm}} = 149\text{dpm} \rightarrow \frac{149\text{dpm}}{1\text{m}^2} \Rightarrow \underline{\underline{14.9\text{dpm}/100\text{cm}^2}}$$

125 I Source

.01 μ Ci 125 I on 10/1/82

0.010 μ Ci \rightarrow 10,906 cpm

\rightarrow 22,200 dpm

00251 00100 000006 010906 000000

$$\frac{10906}{22200} = 49\% = \epsilon$$

\downarrow \downarrow
 131 I 125 I

10/6/82 Wipes

00179 00100 000005 000021 000000 - Wipe #1

00180 00100 000003 000023 000000

00181 00100 000004 000012 000000

00182 00100 000009 000027 000000

00183 00100 000004 000009 000000

00184 00100 000002 000017 000000

00185 00100 000007 000013 000000 BACKGROUND

00186 00100 000006 000015 000000

00187 00100 000003 000007 000000

00188 00100 000003 000010 000000

00189 00100 000000 000020 000000

00190 00100 000005 000026 000000

00191 00100 000005 000012 000000

00192 00100 000004 000013 000000

00193 00100 000003 000019 000000

00194 00100 000000 000020 000000

00195 00100 000004 000019 000000

00196 00100 000002 000018 000000

00197 00100 000004 000013 000000

00198 00100 000001 000012 000000

00199 00100 000003 000020 000000

00200 00100 000001 000020 000000

13037

00201 00100 000003 000016 000000
 00202 00100 000002 000016 000000
 00203 00100 000004 000017 000000
 00204 00100 000002 000022 000000
 00205 00100 000002 000014 000000
 00206 00100 000005 000033 000000
 00207 00100 000004 000039 000000
 00208 00100 000004 000048 000000
 00209 00100 000002 000034 000000
 00210 00100 000004 000013 000000

$$48 - 15 = 33 \text{ cpm}/\text{m}^2$$

$$\frac{33 \text{ cpm}}{0.49 \text{ cm}^2/\text{dpm}} = 67 \text{ dpm}/\text{m}^2$$

00211 00100 000006 000013 000000
 00212 00100 000005 000022 000000
 00213 00100 000001 000022 000000
 00214 00100 000004 000021 000000
 00215 00100 000004 000016 000000
 00216 00100 000002 000016 000000
 00217 00100 000003 000020 000000
 00218 00100 000005 000016 000000
 00219 00100 000006 000023 000000
 00220 00100 000002 000018 000000
 00221 00100 000003 000011 000000
 00222 00100 000003 000015 000000
 00223 00100 000002 000015 000000
 00224 00100 000001 000008 000000
 00225 00100 000000 000023 000000
 00226 00100 000003 000018 000000
 00227 00100 000003 000013 000000
 00228 00100 000002 000018 000000
 00229 00100 000004 000020 000000
 00230 00100 000003 000020 000000
 00231 00100 000004 000015 000000
 00232 00100 000002 000014 000000
 00233 00100 000006 000018 000000

$$\frac{67 \text{ dpm}}{1000 \text{ cm}^2} \rightarrow \underline{6.7 \text{ dpm}/100 \text{ cm}^2}$$

NRC FORM 313M (9-81) 10 CFR 35	U.S. NUCLEAR REGULATORY COMMISSION APPLICATION FOR MATERIALS LICENSE – MEDICAL	Approved by OMB 3150-0041 Expires 9-30-83
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INSTRUCTIONS – Complete Items 1 through 26 if this is an initial application or an application for renewal of a license. Use supplemental sheets where necessary. Item 26 must be completed on all applications and signed. Retain one copy. Submit original and one copy of entire application to: Director, Office of Nuclear Materials Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Upon approval of this application, the applicant will receive a Materials License. An NRC Materials License is issued in accordance with the general requirements contained in Title 10, Code of Federal Regulations, Part 30, and the Licensee is subject to Title 10, Code of Federal Regulations, Parts 19, 20 and 35 and the license fee provision of Title 10, Code of Federal Regulations, Part 170. The license fee category should be stated in Item 26 and the appropriate fee enclosed.

1.a. NAME AND MAILING ADDRESS OF APPLICANT (institution, firm, clinic, physician, etc.) INCLUDE ZIP CODE Veterans Administration Medical Center 1030 Jefferson Ave. Memphis, TN 38104 Ext. 5087 TELEPHONE NO.: AREA CODE (901) 523-8990	1.b. STREET ADDRESS(ES) AT WHICH RADIOACTIVE MATERIAL WILL BE USED (If different from 1.a.) INCLUDE ZIP CODE Same as 1.a.
2. PERSON TO CONTACT REGARDING THIS APPLICATION Murray L. Fields, M.D. Ext. 5093 TELEPHONE NO.: AREA CODE (901) 523-8990	3. THIS IS AN APPLICATION FOR: (Check appropriate item) a. <input type="checkbox"/> NEW LICENSE b. <input checked="" type="checkbox"/> AMENDMENT TO LICENSE NO. 41-00119-08 c. <input type="checkbox"/> RENEWAL OF LICENSE NO.
4. INDIVIDUAL USERS (Name individuals who will use or directly supervise use of radioactive material. Complete Supplements A and B for each individual.) See Attachment A	5. RADIATION SAFETY OFFICER (RSO) (Name of person designated as radiation safety officer. If other than individual user, complete resume of training and experience as in Supplement A.) Hassan M. Omar, Ph.D.

6.a. RADIOACTIVE MATERIAL FOR MEDICAL USE					
RADIOACTIVE MATERIAL LISTED IN:	ITEMS DESIRED "X"	MAXIMUM POSSESSION LIMITS (In millicuries)	ADDITIONAL ITEMS:	MARK ITEMS DESIRED "X"	MAXIMUM POSSESSION LIMITS (In millicuries)
10 CFR 31.11 FOR IN VITRO STUDIES			IODINE-131 AS IODIDE FOR TREATMENT OF HYPERTHYROIDISM		
10 CFR 35.100, SCHEDULE A, GROUP I	X	AS NEEDED	PHOSPHORUS-32 AS SOLUBLE PHOSPHATE FOR TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA AND BONE METASTASES		
10 CFR 35.100, SCHEDULE A, GROUP II	X	AS NEEDED	PHOSPHORUS-32 AS COLLOIDAL CHROMIC PHOSPHATE FOR INTRACAVITARY TREATMENT OF MALIGNANT EFFUSIONS.		
10 CFR 35.100, SCHEDULE A, GROUP III			GOLD-198 AS COLLOID FOR INTRACAVITARY TREATMENT OF MALIGNANT EFFUSIONS.		
10 CFR 35.100, SCHEDULE A, GROUP IV	X	AS NEEDED	IODINE-131 AS IODIDE FOR TREATMENT OF THYROID CARCINOMA		
10 CFR 35.100, SCHEDULE A, GROUP V	X	AS NEEDED	XENON-133 AS GAS OR GAS IN SALINE FOR BLOOD FLOW STUDIES AND PULMONARY FUNCTION STUDIES.		
10 CFR 35.100, SCHEDULE A, GROUP VI					

6.b. RADIOACTIVE MATERIAL FOR USES NOT LISTED IN ITEM 6.a. (Sealed sources up to 3 mCi used for calibration and reference standards are authorized under Section 35.14(d), 10 CFR Part 35, and NEED NOT BE LISTED.)			
ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	MAXIMUM NUMBER OF MILLICURIES OF EACH FORM	DESCRIBE PURPOSE OF USE

8505310340 Spp.

INFORMATION REQUIRED FOR ITEMS 7 THROUGH 23

For Items 7 through 23, check the appropriate box(es) and submit a detailed description of all the requested information. Begin each item on a separate sheet. Identify the item number and the date of the application in the lower right corner of each page. If you indicate that an appendix to the medical licensing guide will be followed, do not submit the pages, but specify the revision number and date of the referenced guide: Regulatory Guide 10.8 , Rev. _____ Date: _____

As stated in License.

7. MEDICAL ISOTOPES COMMITTEE		15. GENERAL RULES FOR THE SAFE USE OF RADIOACTIVE MATERIAL <i>(Check One)</i>	
<input type="checkbox"/>	Names and Specialties Attached; and	<input type="checkbox"/>	Appendix G Rules Followed; or
<input type="checkbox"/>	Duties as in Appendix B; or _____ <i>(Check One)</i>	<input type="checkbox"/>	Equivalent Rules Attached
<input type="checkbox"/>	Equivalent Duties Attached	16. EMERGENCY PROCEDURES <i>(Check One)</i>	
8. TRAINING AND EXPERIENCE		<input type="checkbox"/>	Appendix H Procedures Followed; or
<input type="checkbox"/>	Supplements A & B Attached for Each Individual User; and	<input type="checkbox"/>	Equivalent Procedures Attached
<input type="checkbox"/>	Supplement A Attached for RSO.	17. AREA SURVEY PROCEDURES <i>(Check One)</i>	
9. INSTRUMENTATION <i>(Check One)</i>		<input type="checkbox"/>	Appendix I Procedures Followed; or
<input type="checkbox"/>	Appendix C Form Attached; or	<input type="checkbox"/>	Equivalent Procedures Attached
<input type="checkbox"/>	List by Name and Model Number	18. WASTE DISPOSAL <i>(Check One)</i>	
10. CALIBRATION OF INSTRUMENTS		<input type="checkbox"/>	Appendix J Form Attached; or
<input type="checkbox"/>	Appendix D Procedures Followed for Survey Instruments; or _____ <i>(Check One)</i>	<input type="checkbox"/>	Equivalent Information Attached
<input type="checkbox"/>	Equivalent Procedures Attached; and	19. THERAPEUTIC USE OF RADIOPHARMACEUTICALS <i>(Check One)</i>	
<input type="checkbox"/>	Appendix D Procedures Followed for Dose Calibrator; or _____ <i>(Check One)</i>	<input type="checkbox"/>	Appendix K Procedures Followed; or
<input type="checkbox"/>	Equivalent Procedures Attached	<input type="checkbox"/>	Equivalent Procedures Attached
11. FACILITIES AND EQUIPMENT		20. THERAPEUTIC USE OF SEALED SOURCES	
<input type="checkbox"/>	Description and Diagram Attached	<input type="checkbox"/>	Detailed Information Attached; and
12. PERSONNEL TRAINING PROGRAM		<input type="checkbox"/>	Appendix L Procedures Followed; or _____ <i>(Check One)</i>
<input type="checkbox"/>	Description of Training Attached	<input type="checkbox"/>	Equivalent Procedures Attached
13. PROCEDURES FOR ORDERING AND RECEIVING RADIOACTIVE MATERIAL		21. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE GASES (e.g., Xenon - 133)	
<input type="checkbox"/>	Detailed Information Attached	<input type="checkbox"/>	Detailed Information Attached
14. PROCEDURES FOR SAFELY OPENING PACKAGES CONTAINING RADIOACTIVE MATERIALS <i>(Check One)</i>		22. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE MATERIAL IN ANIMALS	
<input type="checkbox"/>	Appendix F Procedures Followed; or	<input type="checkbox"/>	Detailed Information Attached
<input type="checkbox"/>	Equivalent Procedures Attached	23. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE MATERIAL SPECIFIED IN ITEM 6.b	
<input type="checkbox"/>		<input type="checkbox"/>	Detailed Information Attached

24. PERSONNEL MONITORING DEVICES

TYPE <small>(Check appropriate box)</small>		SUPPLIER	EXCHANGE FREQUENCY
a. WHOLE BODY	FILM		
	TLD		
	OTHER <i>(Specify)</i>		
b. FINGER	FILM		
	TLD		
	OTHER <i>(Specify)</i>		
c. WRIST	FILM		
	TLD		
	OTHER <i>(Specify)</i>		

d. OTHER *(Specify)*

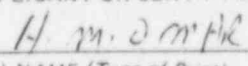
25. FOR PRIVATE PRACTICE APPLICANTS ONLY

a. HOSPITAL AGREEING TO ACCEPT PATIENTS CONTAINING RADIOACTIVE MATERIAL		
NAME OF HOSPITAL	b. ATTACH A COPY OF THE AGREEMENT LETTER SIGNED BY THE HOSPITAL ADMINISTRATOR.	
MAILING ADDRESS	c. WHEN REQUESTING THERAPY PROCEDURES, ATTACH A COPY OF RADIATION SAFETY PRECAUTIONS TO BE TAKEN AND LIST AVAILABLE RADIATION DETECTION INSTRUMENTS.	
CITY	STATE	ZIP CODE

26. CERTIFICATE

(This item must be completed by applicant)

The applicant and any official executing this certificate on behalf of the applicant named in Item 1a certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Parts 30 and 35, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

a. LICENSE FEE REQUIRED <i>(See Section 170.31, 10 CFR 170)</i>	b. APPLICANT OR CERTIFYING OFFICIAL <i>(Signature)</i> <div style="text-align: center; margin-top: 10px;">  </div>
	(1) NAME <i>(Type of Print)</i> HASSAN M. OMAR, Ph.D.
(1) LICENSE FEE CATEGORY: Exempt under 10 CFR 170.11 (a) (5).	(2) TITLE Radiation Safety Officer
(2) LICENSE FEE ENCLOSED: \$ _____	c. DATE September 24, 1984

PRIVACY ACT STATEMENT

Pursuant to 5 U.S.C. 552a(e)(3), enacted into law by section 3 of the Privacy Act of 1974 (Public Law 93-579), the following statement is furnished to individuals who supply information to the Nuclear Regulatory Commission on NRC Form 313M. This information is maintained in a system of records designated as NRC-3 and described at 40 Federal Register 45334 (October 1, 1975).

1. **AUTHORITY** Sections 81 and 161(b) of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2111 and 2201(b)).
2. **PRINCIPAL PURPOSE(S)** The information is evaluated by the NRC staff pursuant to the criteria set forth in 10 CFR Parts 30-36 to determine whether the application meets the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations, for the issuance of a radioactive material license or amendment thereof.
3. **ROUTINE USES** The information may be used: (a) to provide records to State health departments for their information and use; and (b) to provide information to Federal, State, and local health officials and other persons in the event of incident or exposure, for their information, investigation, and protection of the public health and safety. The information may also be disclosed to appropriate Federal, State, and local agencies in the event that the information indicates a violation or potential violation of law and in the course of an administrative or judicial proceeding. In addition, this information may be transferred to an appropriate Federal, State, or local agency to the extent relevant and necessary for a NRC decision or to an appropriate Federal agency to the extent relevant and necessary for that agency's decision about you. A copy of the license issued will routinely be placed in the NRC's Public Document Room, 1717 H Street, N.W., Washington, D.C.
4. **WHETHER DISCLOSURE IS MANDATORY OR VOLUNTARY AND EFFECT ON INDIVIDUAL OF NOT PROVIDING INFORMATION** Disclosure of the requested information is voluntary. If the requested information is not furnished, however, the application for radioactive material license, or amendment thereof, will not be processed.
5. **SYSTEM MANAGER(S) AND ADDRESS** Director, Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

ATTACHMENT A

- | | | |
|---|----------------------------------|--|
| 6. Byproduct, source, and/or special nuclear material | 7. Chemical and/or physical form | 8. Maximum amount that licensee may possess at any one time under this license |
|---|----------------------------------|--|

Condition

The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports to Workers; Inspections" and Part 20, "Standards for Protection Against Radiation."

Licensed material shall be used by, or under the supervision of Murray L. Fields, M.D. or Alys H. Lipscomb, M.D.

F. Iodine 131	F. Any	F. 50 millicuries
G. Carbon 14	G. Any	G. 200 millicuries
H. Phosphorus 32	H. Any	H. 25 millicuries
I. Sulfur 35	I. Any	I. 25 millicuries
J. Hydrogen 3	J. Any	J. 700 millicuries
K. Iodine 125	K. Any	K. 100 millicuries
L. Chromium 51	L. Any	L. 25 millicuries

Authorized use

F. through L. In Vitro studies and tracer research on laboratory animals.

We are requesting to change the limits of the above items (8.F) through (8.L) to read as follows:

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
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F. Iodine 131	F. Any	F. 100 millicuries
G. Carbon 14	G. Any	G. 800 millicuries
H. Phosphorus 32	H. Any	H. 100 millicuries
I. Sulfur 35	I. Any	I. 100 millicuries
J. Hydrogen 3	J. Any	J. 900 millicuries
K. Iodine 125	K. Any	K. 800 millicuries
L. Chromium 51	L. Any	L. 100 millicuries