

MATERIALS LICENSE

Amendment No. 11

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, require, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee		In accordance with letter dated June 3, 1996	
1. Dickinson County Memorial Hospital		3. License Number 21-18889-01 is amended in its entirety to read as follows:	
2. 1721 South Stephenson Iron Mountain, MI 49801		4. Expiration Date July 31, 2000	
		5. Docket or Reference No. 030-17318	
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	
A. Any byproduct material identified in 10 CFR 35.100	A. Any radiopharmaceutical identified in 10 CFR 35.100	A. As needed	
B. Any byproduct material identified in 10 CFR 35.200	B. Any radiopharmaceutical identified in 10 CFR 35.200	B. As needed	
9. Authorized Use:			
A. Medical use described in 10 CFR 35.100.			
B. Medical use described in 10 CFR 35.200.			

CONDITIONS

10. Locations of Use: 400 Woodward Avenue, Iron Mountain, Michigan and 1721 South Stephenson, Iron Mountain, Michigan.
11. Radiation Safety Officer: Dale R. Shampo, M.D.

9612030104 961120
PDR ADOCK 03017318
C PDR

COPY

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

21-18889-01

Docket or Reference Number

030-17318

Amendment No. 11

12. Authorized Users:

- A. Bayani Manzano, M.D., for material in 10 CFR 35.100 and 35.200.
- B. Mervin J. Specht, M.D., for material in 10 CFR 35.100 and 35.200.
- C. Dale R. Shampo, M.D., for material in 10 CFR 35.100 and 35.200.
- D. Danilo Zapanta, M.D., for material in 10 CFR 35.100 and 35.200.
- E. Kristen K. DeStigter, M.D., for material in 10 CFR 35.100 and 35.200.
- F. John S. To, M.D., for material in 10 CFR 35.100 and 35.200.

13. Pursuant to 10 CFR Part 40, "Domestic Licensing of Source Material," the licensee is authorized to possess, use, transfer, and import up to 999 kilograms of depleted uranium contained as shielding material.

14. The licensee shall maintain records of information related to decommissioning at the address in Condition 10. per the provisions of 10 CFR 30.35(g) until this license is terminated by the Commission.

15. This license is based on the licensee's statements and representations listed below:

- A. Application dated April 30, 1990; and
- B. Letters dated February 5, 1993, June 3, 1996, October 30, 1996 and November 19, 1996. —

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date November 20, 1996

By

John S. To
Nuclear Materials Licensing Branch, Region III

COPY

SS

(FOR LFMS USE)
INFORMATION FROM LTS

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

PROGRAM CODE: 02120
STATUS CODE: 0
FEE CATEGORY: 7C 2B
EXP. DATE: 20000731
FEE COMMENTS: CODE 13
DECOM FIN ASSUR REQD: N
.....

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED
APPLICANT/LICENSEE: DICKINSON CTY. MEMORIAL HOSPITAL
RECEIVED DATE: 960730
DOCKET NO: 3017318
CONTROL NO.: 301668
LICENSE NO.: 21-18889-01
ACTION TYPE: AMENDMENT

2. FEE ATTACHED
AMOUNT: 430.00
CHECK NO.: 1122578

3. COMMENTS

SIGNED M. Mcenan
DATE 8/2/96

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED / ☒)

1. FEE CATEGORY AND AMOUNT: 7C 440

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:
AMENDMENT ☒
RENEWAL ☐
LICENSE ☐

3. OTHER

SIGNED SC
DATE 8/30/96

1976 AUG - 5 AM 11:08

SEP 05 1996

Log	<u>Aug 2 III</u>
Remitter	
Check No.	<u>1122578/1123474</u>
Amount	<u>430.00</u> <u>410</u>
Fee Category	<u>7C</u>
Type of Fee	<u>AmD</u>
Date Check Rec'd	<u>8/5/96</u>
Date Completed	<u>8/30/96</u>
By:	<u>SC</u>

DCIH



*Pickinson County Memorial Hospital
400 Woodward Avenue
Iron Mountain, Mi. 49801
906/774-1318*

June 3, 1996

U. S. Nuclear Regulatory Commission
Licensing Division
Region III
801 Warrenville Road
Lisle, Illinois 60532-4351

RE: Amendment to NRC Radioactive Materials License #21-18889-01

Dear Sirs:

Please amend the above referenced radioactive materials license to reflect the following:

1. Add Kristen K. DeStigter, M. D. and John S. To, M. D. as authorized users to our radioactive materials license. Documentation of their qualifications are attached. We anticipate the arrival of these two (2) doctors approximately July 1, 1996.
2. Our facility will be moving to a new location. The new address will be:

1721 South Stephenson
Iron Mountain, Michigan 49801

Attached are diagrams which identify the location of our new Hot Lab, Dose Injection Area, and Camera room. We do not have the specific locations of the items in our Hot Lab at this time. These locations will be determined when we move so we can determine how things fit best. We will supply your agency with an updated Hot Lab diagram when this information becomes available. We hope to move into our new facility between November 1, 1996 and November 29, 1996.

3. We will be using any byproduct material identified in 10 CFR 35.100 and 10 CFR 35.200 (including Xenon-133) at the new facility. We will submit any required air concentration controls as identified in Regulatory Guide 10.8 Appendix O before any Xenon-133 gas is used.

RECEIVED

JUL 30 1996

REGION

301668

pm- 7/26/96

4. Change the approved radioactive materials for the following authorized users to indicate all of the following:

Bayani Manzano, M. D., for material identified in 10 CFR 35.100 and 35.200 (including Xenon-133);

Dale R. Shampo, M. D., for material identified in 10 CFR 35.100 and 35.200 (including Xenon-133);

Danilo Zapanta, M. D., for material identified in 10 CFR 35.100 and 35.200 (including Xenon-133).

Please reference license #21-18586-01 for Iron County Community Hospitals, Inc. d/b/a Iron County General Hospital for the above referenced users' qualifications to use Xenon-133 gas.

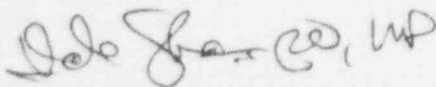
Mervin J. Specht, M. D., for material identified in 10 CFR 35.100 and 35.200 (including Xenon-133).

Please reference license #21-12916-01 for V. A. Medical Center in Iron Mountain for Dr. Specht's qualifications to use Xenon-133.

We will be completing a close-out survey of the facility at 400 Woodward Avenue (current address) prior to releasing it for unrestricted use. We will verify that there is no exposure reading exceeding 0.05 mR/hr and no removable contamination in excess of 2000 dpm/100 cm². These survey results will be submitted to your agency for final approval to release this area.

Enclosed is a check for \$430.00 to cover the costs to process this amendment. We hope that the information provided is sufficient to grant our amendment request. If you have any questions regarding this amendment, please contact Mike Deurloo at our facility.

Sincerely,



Dale Shampo, M. D.
Radiation Safety Officer

enclosures

Ultrasound

Office

20'-5"

Camera
Room

Camera

11'-7"

Sink

Hot
Lab

Dose Injection
Room

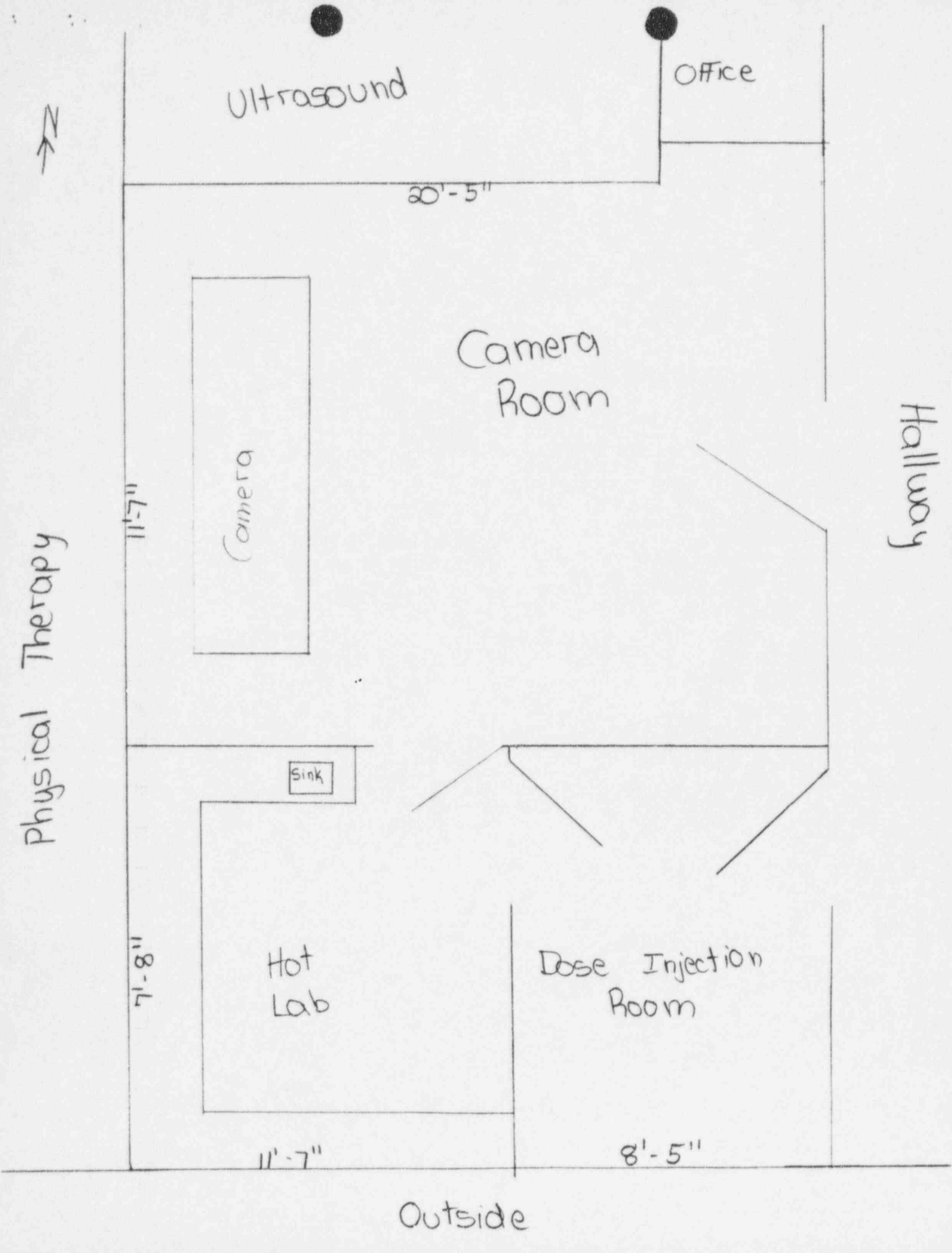
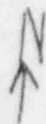
11'-7"

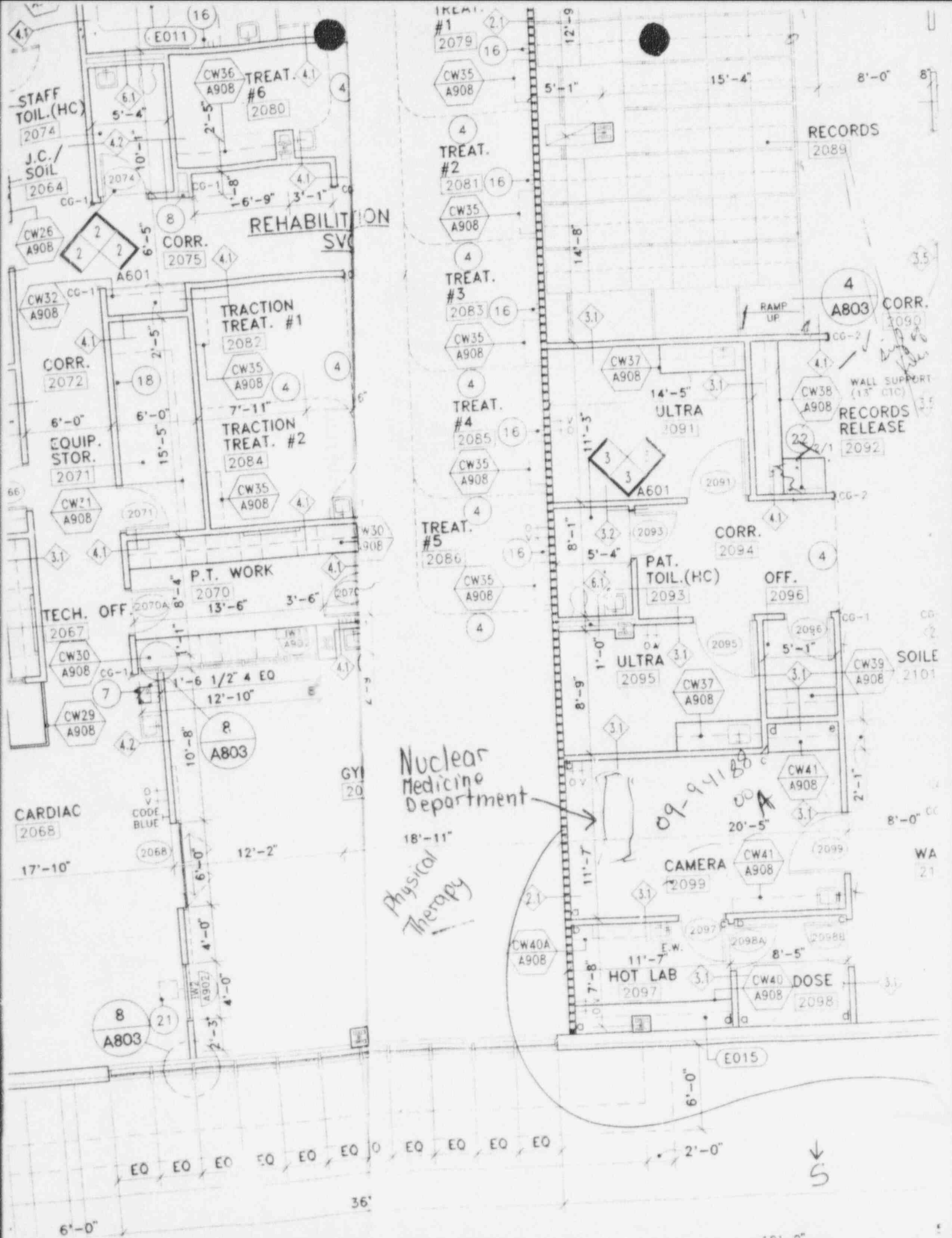
8'-5"

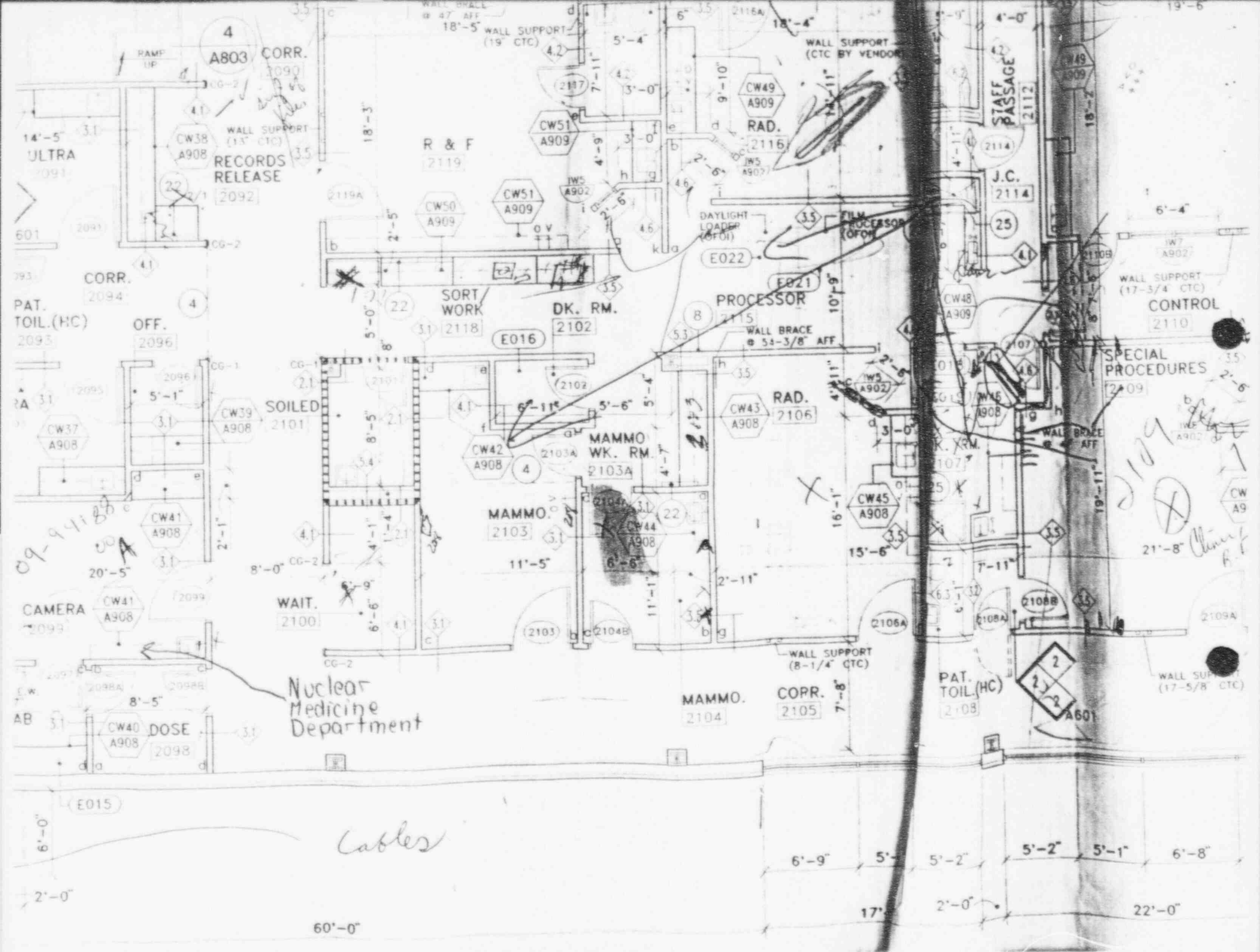
Outside

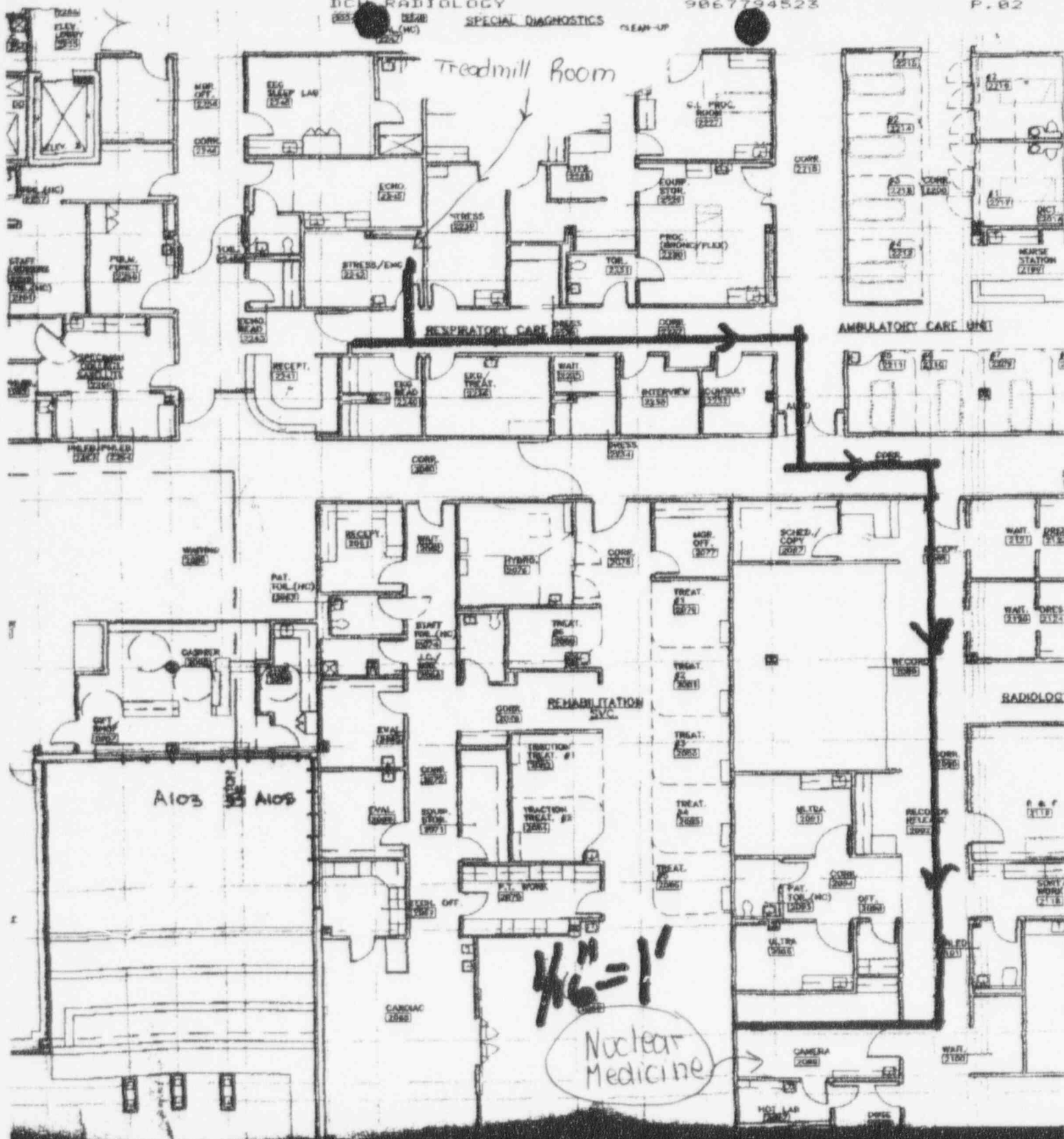
Hallway

Physical Therapy









N1

EXHIBIT 2
SUPPLEMENT A

SUPPLEMENT		U.S. NUCLEAR REGULATORY COMMISSION		
TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER				
1. NAME OF PROPOSED AUTHORIZED USER OR RADIATION SAFETY OFFICER JOHN STUART To, M.D.		2. FOR PHYSICIANS, STATE OR TERRITORY WHERE LICENSED MICHIGAN		
3. CERTIFICATION				
SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C		
AMERICAN BOARD OF RADIOLOGY	DIAGNOSTIC RADIOLOGY	JUNE 1996		
4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES				
FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	TYPE AND LENGTH OF TRAINING		
		CLOCK HOURS IN LECTURE OR LABORATORY	CLOCK HOURS OF SUPERVISED ON-THE-JOB EXPERIENCE	
a. RADIATION PHYSICS AND INSTRUMENTATION	BRIGHAM + WOMEN'S HOSP DEPT OF RADIOLOGY BOSTON, MA 7/92-6/96	10	30	
b. RADIATION PROTECTION	"	5	15	
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	"	1	3	
d. RADIATION BIOLOGY	"	3	9	
e. RADIOPHARMACEUTICAL CHEMISTRY	"	1	3	
5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)				
ISOTOPE	mCi USED AT ONE TIME	LOCATION	CLOCK HOURS	TYPE OF USE
Tl-99m	1 - 30 mCi	BWH DEPT OF RADIOLOGY DIVISION OF NUCLEAR MEDICINE	730	DIAGNOSTIC NUCLEAR MEDICINE
Xe-133	10 - 35 mCi		100	
I-123	12 - 3 mCi		100	
Ga-67	5 - 11 mCi		60	
Tl-201	2 - 4 mCi		40	
In-111	13 - 6 mCi		8	
I-133	1 - 5 mCi		2	
Sr-89	2.5 - 4 mCi	"	1	THERAPEUTIC NUC MED

**EXHIBIT 3
SUPPLEMENT B**

SUPPLEMENT		U. S. NUCLEAR REGULATORY COMMISSION	
PRECEPTOR STATEMENT			
<i>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.</i>			
1. PROPOSED PHYSICIAN USER'S NAME AND ADDRESS <hr/> FULL NAME <div style="font-family: cursive; font-size: 1.2em;">JOHN STUART To</div> <hr/> STREET ADDRESS <hr/> CITY _____ STATE _____ ZIP CODE _____		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 <small>A</small>	CONDITIONS DIAGNOSED OR TREATED <small>B</small>	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION <small>C</small>	COMMENTS <small>(Additional information or comments may be submitted in duplicate on separate sheets.) D</small>
<div style="font-size: 0.8em;"> I-131 I-125 I-123 I-111 I-109 I-104 I-103 I-101 I-100 I-99 I-97 I-95 I-94 I-93 I-91 I-89 I-87 I-85 I-83 I-81 I-79 I-77 I-75 I-73 I-71 I-69 I-67 I-65 I-63 I-61 I-59 I-57 I-55 I-53 I-51 I-49 I-47 I-45 I-43 I-41 I-39 I-37 I-35 I-33 I-31 I-29 I-27 I-25 I-23 I-21 I-19 I-17 I-15 I-13 I-11 I-9 I-7 I-5 I-3 I-1 </div>	Thyroid scan	117	INCLUDING 7 WHOLE BODY I-131 SCANS.
	Thyroid uptake	—	
	Lung perfusion scan	600	
	Xenon ventilation study	325	
	Aerosol ventilation scan	—	
	Renal flow scan	80	
	Brain scan	220	
	Liver/spleen scan	15	
	Bone scan	1000	
	Gastroesophageal study	30	
	LeVeen shunt study	—	
	Cystogram	2	
	Dacryocystogram	—	
	Cardiac perfusion scan.	680	
	Cardiac stress ventriculogram	—	
		Cardiac rest ventriculogram	
	Gallium scan	220	
	STRONTIUM THERAPY FOR PAIN PALIATION	1	

EXHIBIT 3 (Continued)

PROPOSED PHYSICIAN USER

JOHN STUART TO

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 sheet.) D
P-32 (Soluble)	TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA, AND BONE METASTASES	0	
P-32 (Colloid)	INTRACAVITARY TREATMENT	0	
I-131	TREATMENT OF THYROID CARCINOMA	0	
	TREATMENT OF HYPERTHYROIDISM	0	
Au-198	INTRACAVITARY TREATMENT	0	
Co-60 or Co-137	INTERSTITIAL TREATMENT	0	
	INTRACAVITARY TREATMENT	0	
I-125 or Ir-192	INTERSTITIAL TREATMENT	0	
Co-60 or Co-137	TELETHERAPY TREATMENT	0	
Sr-90	TREATMENT OF EYE DISEASE	0	
	RADIOPHARMACEUTICAL PREPARATION		
Mo-99/ Tc-99m	GENERATOR	1	
Sr-113/ In-113m	GENERATOR	0	
Tc-99m	REAGENT KITS	2	
Other Sr89	PAIN PALLIATION	1	

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

LOCATION

DATES

CLOCK HOURS OF EXPERIENCE

BWH DEPT OF RADIOLOGY
DIVISION OF NUCLEAR MEDICINE

7/92-6/96

1000

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

a. NAME OF SUPERVISOR

JAMES S. NAGEL MD

b. NAME OF INSTITUTION DEPT OF RADIOLOGY
BRIGHAM + WOMEN'S HOSP.

c. MAILING ADDRESS

75 FRANCIS ST.

d. CITY

BOSTON, MA 02115

e. MATERIALS LICENSE NUMBER(S)

20-17131-01

5. PRECEPTOR'S SIGNATURE

James S. Nagel MD

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

JAMES S. NAGEL MD

8. DATE

7/1/96


**EXHIBIT 2
SUPPLEMENT A**

SUPPLEMENT		U.S. NUCLEAR REGULATORY COMMISSION		
TRAINING AND EXPERIENCE AUTHORIZED USER OR RADIATION SAFETY OFFICER				
1. NAME OF PROPOSED AUTHORIZED USER OR RADIATION SAFETY OFFICER Kristen Kay DeStigter, M.D.		2. FOR PHYSICIANS, STATE OR TERRITORY WHERE LICENSED OH, MI		
3. CERTIFICATION				
SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C		
American Board of Radiology	Diagnostic Radiology	6/96		
4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES				
FIELD OF TRAINING A	LOCATION AND DATE (S) OF TRAINING B	TYPE AND LENGTH OF TRAINING		
		CLOCK HOURS IN LECTURE OR LABORATORY	CLOCK HOURS OF SUPERVISED ON-THE-JOB EXPERIENCE	
a. RADIATION PHYSICS AND INSTRUMENTATION	Univ. Hosp. of Cleveland	90	60	
b. RADIATION PROTECTION	"	30	10	
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	"	90	15	
d. RADIATION BIOLOGY	"	50	10	
e. RADIOPHARMACEUTICAL CHEMISTRY	"	40	10	
5. EXPERIENCE WITH RADIATION. (Actual use of Radioisotopes or Equivalent Experience)				
ISOTOPE	mCi USED AT ONE TIME	LOCATION	CLOCK HOURS	TYPE OF USE
I-131	200 mCi	Univ. Hosp. of Cleveland	6 months	Clin Dx & Rx
Tc-99m	1000 mCi	"	"	Clin Dx
P-32	30 mCi	"	"	Clin Dx
Others	10 mCi	"	"	Clin Dx

**EXHIBIT 3
SUPPLEMENT B**

SUPPLEMENT		U. S. NUCLEAR REGULATORY COMMISSION	
PRECEPTOR STATEMENT			
<i>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.</i>			
1. PROPOSED PHYSICIAN USER'S NAME AND ADDRESS <hr/> FULL NAME Kristen Kay DeStigter, M.D. <hr/> STREET ADDRESS <hr/> CITY _____ STATE _____ ZIP CODE _____		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 pretherapy 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 A	CONDITIONS DIAGNOSED OR TREATED B	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION C	COMMENTS <i>(Additional information or comments may be submitted in duplicate on separate sheet(s).)</i> D
	Thyroid scan	93	
	Thyroid uptake	112	
	Lung perfusion scan	237	
	Xenon ventilation study	234	
	Aerosol ventilation scan		
	Renal flow scan	39	
	Brain scan	43	
	Liver/spleen scan	16	
	Bone scan	522	
	Gastroesophageal study	34	
	LeVeen shunt study -- CSF	5	
	Cystogram	26	
	Decryocystogram		
	Cardiac perfusion scan. - GBP	290	
	Cardiac stress ventriculogram	330	
	Cardiac rest ventriculogram	329	
	Gallium scan	141	
		Hepatobiliary	
GI Bleed		34	
Cisternogram		15	
Renal Function		36	
Lasix Renograms		30	
WBC Studies		11	
Schillings		5	

EXHIBIT 3 (Continued)

PROPOSED PHYSICIAN USER Kristen Kay DeStigter, M.D.			
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	1	
P-32 (Colloid)	INTRACAVITARY TREATMENT		
I-131	TREATMENT OF THYROID CARCINOMA	1	
	TREATMENT OF HYPERTHYROIDISM	30	
Au-198	INTRACAVITARY TREATMENT		
Co-60 or Cs-137	INTERSTITIAL TREATMENT		
	INTRACAVITARY TREATMENT		
I-126 or I-127	INTERSTITIAL TREATMENT		
	TELETHERAPY TREATMENT		
Co-60 or Cs-137	TELETHERAPY TREATMENT		
	TREATMENT OF EYE DISEASE		
	RADIOPHARMACEUTICAL PREPARATION		
Mo-99/ Tc-99m	GENERATOR	5	
Sn-113/ In-113m	GENERATOR		
Tc-99m	REAGENT KITS	5	
Other			
3. DATES AND TOTAL NUMBER OF HOURS RECEIVED IN CLINICAL RADIOISOTOPE TRAINING			
LOCATION University Hospitals of Cleveland		DATES Oct. 1991 Feb. 1992 April 1992 Nove. 1992	CLOCK HOURS OF EXPERIENCE Jan. 1995 1 month equivalent for formal didactic training (lectures) Total hours = 1248
4. THE TRAINING AND EXPERIENCE INDICATED ABOVE WAS OBTAINED UNDER THE SUPERVISION OF:		5. PRECEPTOR'S SIGNATURE	
a. NAME OF SUPERVISOR Floro Miraldi, M.D., Sc.D.			
b. NAME OF INSTITUTION Univ. Hospitals of Cleveland			
c. MAILING ADDRESS 11100 Euclid Avenue		7. PRECEPTOR'S NAME (Print type or print) Floro Miraldi, M.D., Sc.D.	
d. CITY Cleveland, Ohio 44106		8. DATE 6-21-96	
e. MATERIALS LICENSE NUMBER(S) 34-05469-01			

LICENSE FEE REQUIREMENTS

LICENSE FEE AND DEBT COLLECTION BRANCH
DIVISION OF ACCOUNTING AND FINANCE
OFFICE OF THE CONTROLLER
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001DICKINSON COUNTY MEMORIAL HOSPITAL
ATTN: DALE SHAMPO, M.D.
400 WOODWARD AVENUE
IRON MOUNTAIN, MICHIGAN 49801

TYPE OF ACTION

- ☐ NEW LICENSE
☐ RENEWAL OF LICENSE
☒ AMENDMENT TO LICENSE

REQUESTED DATE

6-3-96

LICENSE NUMBER

21-18889-01

CONTROL NUMBER

301668

I. APPLICATION FEE DUE

Your request for a licensing action is subject to the fee(s) in the category(ies) noted below in accordance with Section 170.31 of the enclosed Federal Register notice. Payment of the fee is required prior to the issuance of the license, renewal, or amendment.

FEE CATEGORY	APPLICATION	RENEWAL	AMENDMENT
7C	\$	\$	\$ 440.00
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$

FEE(s) DUE	\$	440.00
PAYMENT RECEIVED	\$	430.00
AMOUNT DUE	\$	10.00

☐ Your request was received without the prescribed application fee.

☒ We received your Check No. 1122578 in the amount of \$ 430.00. Payment of the additional fee noted above is required.

☐ Your request will increase the scope of your license program. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(d)(2).

☐ Your license expired prior to the receipt of your application for renewal. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(a).

MAKE PAYMENT OF THE FEE(S) TO THE U.S. NUCLEAR REGULATORY COMMISSION AND MAIL THE PAYMENT TO THE ADDRESS LISTED AT THE TOP OF THIS FORM. IF WE DO NOT RECEIVE A REPLY FROM YOU WITHIN 30 CALENDAR DAYS FROM THE DATE LISTED BELOW, WE SHALL ASSUME THAT YOU DO NOT WISH TO PURSUE YOUR APPLICATION AND WILL VOID THIS ACTION.

SIGNATURE - LICENSE FEE ANALYST

LFDCB

LFDCB

SHIRLEY CRUTCHFIELD

8/6/96

Distribution:

Pending Fee File OC/DAF/RP
LFARB R/F (2) OC/DAF/SF(LF-3.2.7)
Region 3

DATE

Aug. 6, 1996

NOV 20 1996

Dale Shampo, M.D.
Radiation Safety Officer
Dickinson County Memorial Hospital
1721 South Stephenson
Iron Mountain, MI 49801

Dear Dr. Shampo:

Enclosed is Amendment No. 11 to your NRC Material License No. 21-18889-01 in accordance with your request.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region III office at (630) 829-9887 so that we can provide appropriate corrections and answers.

Please be advised that we cannot authorize you to release your old nuclear medicine space for unrestricted use (even by other members of your staff) until we have received and reviewed a copy of the results of your close-out survey. The survey should consist of exposure rate measurements to show that all sources of radioactive material have been removed, and contamination checks of areas where radioactive materials were used or stored. Average radiation levels associated with surface contamination and removable contamination should not exceed those specified in the enclosed decontamination guide. Please submit the following information with your close-out survey:

- a. A diagram of your old facility with survey and wipe test results keyed to specific locations.
- b. The name of the person performing the survey.
- c. The date the survey was performed.
- d. The instrument(s) used for exposure rate measurements and for analysis of the wipes.
- e. Background readings.
- f. The date that the survey instrument was last calibrated.

301668

D. Shampo

-2-

Please be advised that your license expires at the end of the day, in the month, and year stated in the license. Unless your license has been terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers; Inspections," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Notify NRC, in writing, within 30 days:
 - a. When an authorized user or Radiation Safety Officer permanently discontinues performance of duties under the license or has a name change; or
 - b. When the licensee's mailing address changes (no fee is required if the location of byproduct material remains the same).
3. In accordance with 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license when you decide to terminate all activities involving materials authorized under the license.
4. Request and obtain a license amendment before you:
 - a. Receive or use byproduct material for a clinical procedure permitted under Part 35 but not permitted by your license issued pursuant to this Part;
 - b. Permit anyone, except individuals described in 10 CFR 35.13(b), to work as an authorized user under the license;
 - c. Change Radiation Safety Officers;
 - d. Order byproduct material in excess of the amount, or radionuclide, or form different than authorized on the license;
 - e. Add or change the areas of use or address or addresses of use identified in the license application or on the license; or
 - f. Change ownership of your organization.

NOV 20 1996

D. Shampo

-3-

5. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or certifying official rather than a consultant.

You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation, or imposition of a civil penalty, or an order suspending, modifying or revoking your license as specified in the General Policy and Procedures for NRC Enforcement Actions. Since serious consequences to employees and the public can result from failure to comply with NRC requirements, prompt and vigorous enforcement action will be taken when dealing with licensees who do not achieve the necessary meticulous attention to detail and the high standard of compliance which NRC expects of its licensees.

Sincerely,

Original Signed By
Gidget Watson
Nuclear Materials Licensing Branch

License No.: 21-18889-01

Docket No.: 030-17318

Enclosure: Amendment No. 11

DOCUMENT NAME: M:\03017318.CL6

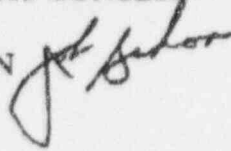
To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	DNMS/RIII								
NAME	GWATSON:jaw								
DATE	10/20/96 G IV								

//

OFFICIAL RECORD COPY

21-18889-01

TO: WHOM IT MAY CONCERN
FROM: JOHN SCHON 
DATE: 11-19-96
SUBJECT: RADIATION SAFETY OFFICER

Dale R Shampo M.D. is the Radiation Safety officer for Dickinson County Healthcare System. He is authorized by me to sign all documents in regard to radiation safety at this facility effective todays date 11-19-1996.

DCIH



October 30, 1996

*Parkinson County Memorial Hospital
400 Woodward Avenue
Iron Mountain, Mi. 49801
906/774-1313*

Gidget Watson
U. S. Nuclear Regulatory Commission
Licensing Division
Region III
801 Warrenville Road
Lisle, IL 60532 -4351

RE: Response for Additional Information for Amendment to
Materials License #21-18889-01

Dear Ms. Watson:

Attached is the additional information you requested for our license amendment.

1. Attached is a diagram for the Hot Lab in the new department. We now have a better idea where some of the items will be located in this room.
2. Attached are the air concentration calculations needed for the use of radioactive gases in the department.
3. Attached is a letter of authorization from John Schon, CEO, allowing radioactive materials to be used at the new location.
4. Attached is a letter from M. Paul Capp, M.D. with The American Board of Radiology, verifying John Stuart To, M.D. is certified by this organization in Diagnostic Radiology.

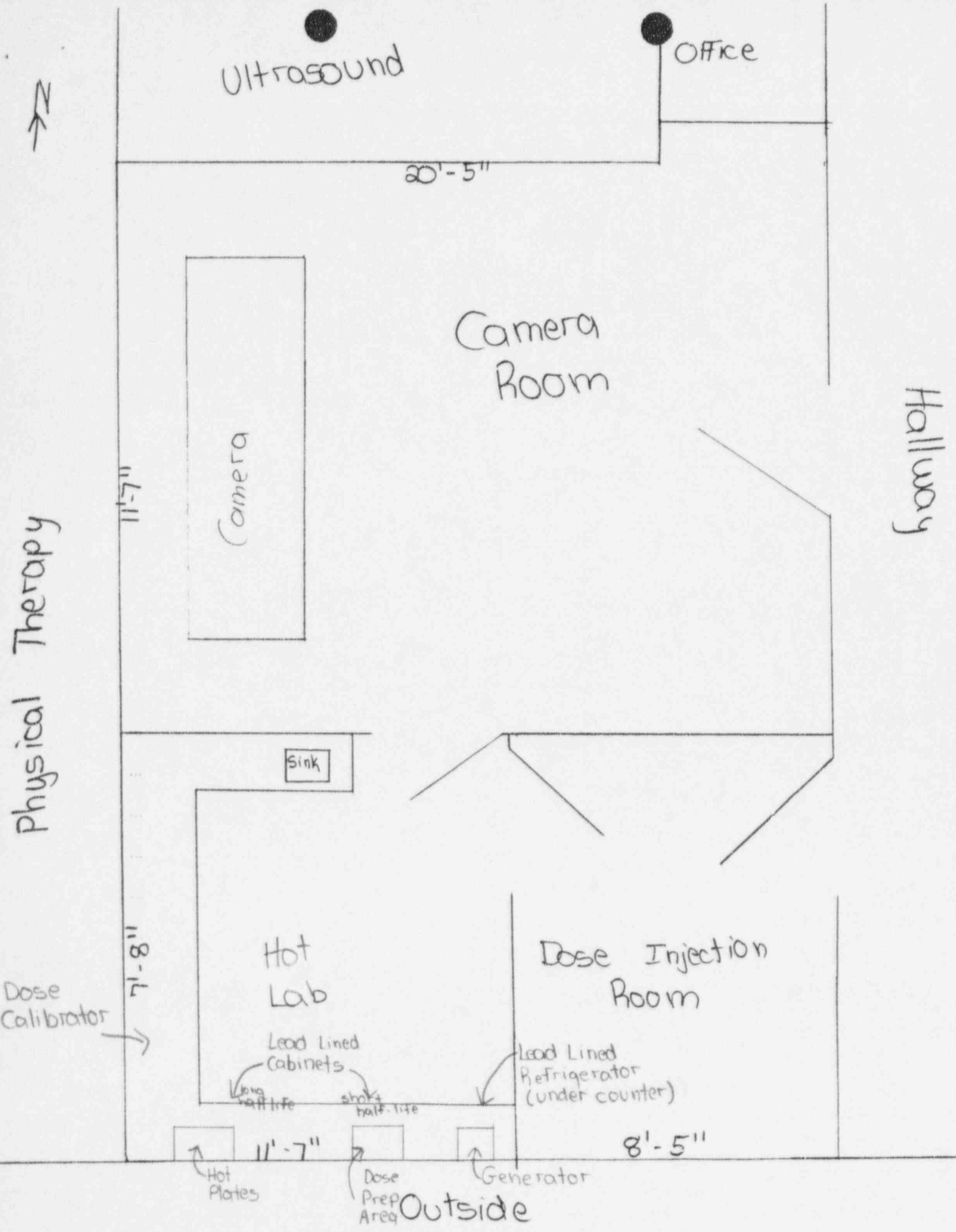
We hope this information is sufficient to grant our requests. Please note that we plan on moving during the week of November 18, 1996 so we would appreciate a timely response. Thank you.

Sincerely,

Dale Shampo, M.D.
Dale Shampo, M.D.
Radiation Safety Officer

RECEIVED
NOV 07 1996
REGION III

NOV 07 1996



ROOM 2107

CW45

RAD 2106
3/8" = 1'-0"

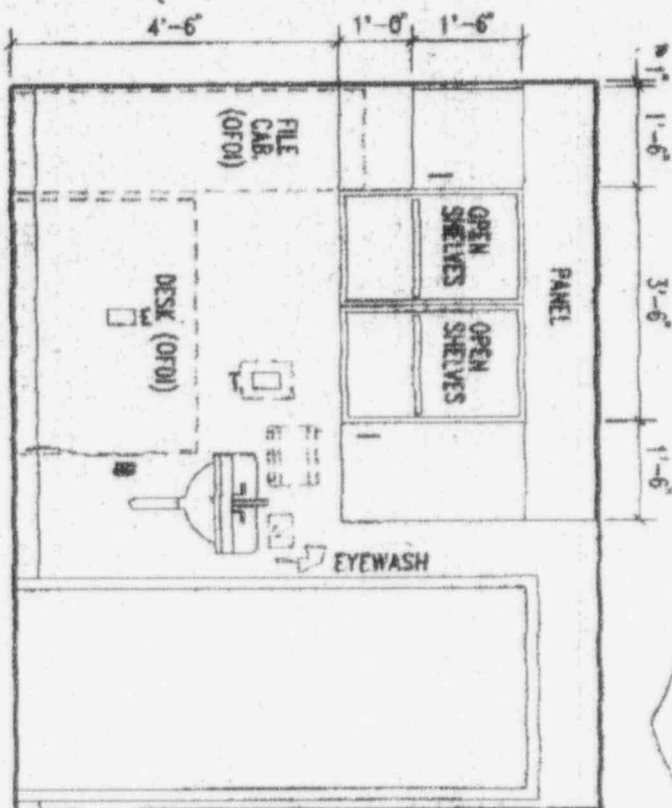
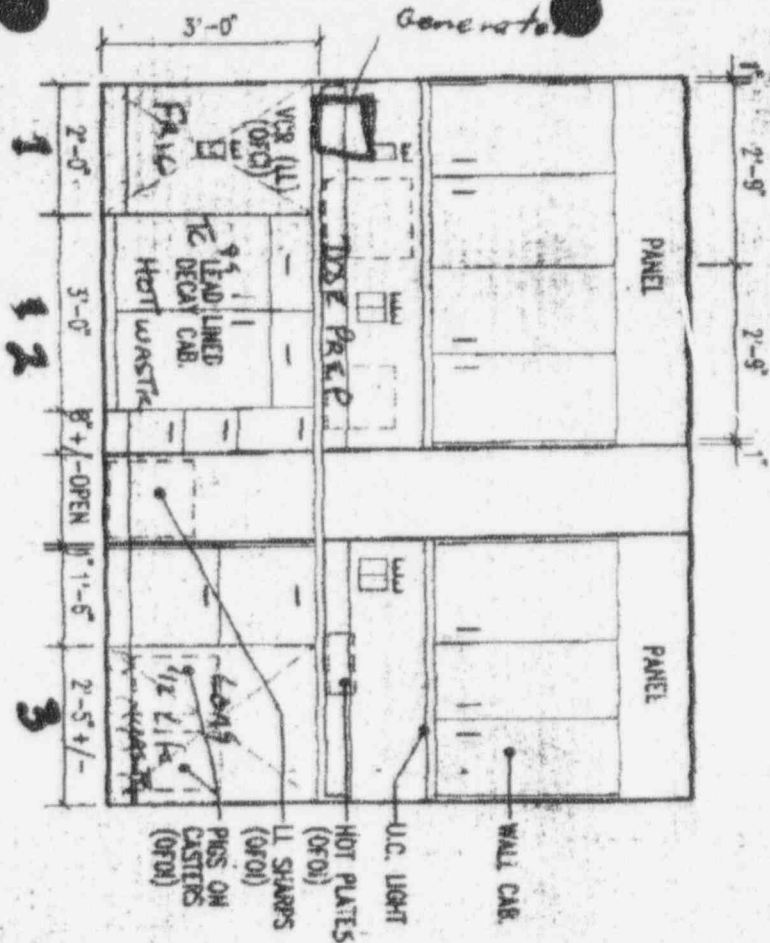
CW44

MAMM
3/8" = 1'-0"

ICM RADIOLOGY

9867794523

P. 82



CW40

HOT LAB 2097
3/8" = 1'-0"

CW40A

HOT LAB 2097
3/8" = 1'-0"



DICKINSON

FACILITY: Dickinson County Memorial Hospital System
Iron Mountain, MI

0.1 Model Procedure for Calculating Worker Dose from Concentrations of Gases and Aerosols in Work Areas

1. DATA:

S = Estimated number of studies per week:	2
A = Activity to be administered per study (mCi):	20
Estimated activity lost to the work area per study:	0.2
Measured airflow supplied by each vent in imaging room:	1000
E = Measured airflow exhausted by each vent in imaging room:	1650
Measured airflow exhaust at storage site (e.g. fume hood):	0
T = Length of work week (40 hours) in minutes :	2400
V = Room Air Volume in cubic feet:	2602.2

Highest Annual External Exposure from the previous year (REM):	0.5
Adjusted Derived Air Concentration (DAC):	0.0001

Maximum permissible air concentrations:

	Restricted (uCi/ml) Adjusted DAC	Unrestricted (uCi/ml)
Xe-133	0.0001	0.0000005
Tc-99m	0.00006	0.0000002

2. Calculations:

a) Sum of all measured exhaust rates, in CFM:	1650
Sum of all measured supply rates, in CFM:	1000

Imaging Room is at a negative air pressure.

b) The estimated average concentration in restricted areas:

$S \times A \text{ (in mCi)} \times 1000 \text{ uCi/mCi} \times 0.2$

 $E \text{ (in CFM)} \times 2.8317 \times 10^4 \times T$

7.1342E-08 uCi/ml Max. Perm. Air Concentration
=====

(1 CF = 2.8317×10^4 ml)

0.2 Model Procedure for Calculating Airborne Effluent Concentration

1. DATA:

S = Number of Studies
 A = Activity Administered Per Study
 E = Exhausted Airflow
 T = "ON" Time 168 Hours per Week (10,080 min)

2. CALCULATION:

$$S \times A(\text{mCi}) \times 1000 \text{ uCi/mCi} \times 0.2$$

$$\text{-----} =$$

$$E \text{ (CFM)} \times 2.8317 \times E^4 \text{ ml} \times T$$

$$1.6986\text{E-}08 \text{ uCi/ml Max. Perm. Air Concentration}$$

$$\text{=====}$$

0.4 Model Procedure for Calculating Spilled Gas Clearance Time

1. DATA:

A = Highest activity of gas in a single container,
 in microcuries:

30000

Measured Airflow Supply from each vent in the room
 in ml/min:

2.8317E+07

1 CF = 2.8317×10^4 ml

Q = Total room air exhaust, in ml/min

4.6723E+07

C = Maximum Permissible Air Concentrations in
 restricted and unrestricted areas.

V = Volume of the room in milliliters

7.3686E+07 ml

2. CALCULATION

a) The room is at negative pressure.

b) The evacuation time:

$$t = \frac{-V}{Q} \times \ln(C \times V/A)$$

t = 2.21 minutes Spilled Gas Clearance Time

EMERGENCY PROCEDURES

In the event of an accidental release of Xe-133 into the room, we will temporarily evacuate the room(s) and reclose the entrance door for the time period listed on previous pages.

GAS TRAPPING

To monitor our Xe-133 gas trap exhaust (to ensure trapping efficiency) we will use either a commercially available trap monitor (such as Atomic Products, Model 136-250 Xenalarm) or we will collect Xe-133 gas trap exhaust in a plastic bag and assay the Xe-133 content with our gamma camera.

If we obtain a trap monitor, we confirm we will follow the manufacturer's instructions for use and calibration frequency of the instrument (at least annually).

The bag method will involve:

1. Determining camera detection efficiency using a known source of Tc-99m, Co-57, Xe-133, or other low energy radionuclide. Configuration of the source will be in the form of a flood phantom rather than a point source to approximate the geometry of the bag.
2. Assaying the Xe-133 exhaust bag and calculating the quantity (activity) of Xe-133 leakage. The frequency of this check will be initially and at least monthly, or more frequently, if more than thirty Xe-133 studies are performed in a given month.
3. Calculating wheather or not the trap is at least 95% efficient by dividing trap leakage by administered activity
4. Manufacturer's specify that charcoal traps are at least 98% efficient for tapping Xe-133. Therefore we feel that 95% is a reasonable action level at which point the charcoal filters would need replacement.

5. The saturated filter will be removed and the portals will be tightly capped with rubber stoppers. In this matter, the cartridge will not leak since air is not flowing through the unit. The surface readings of the lead shielded "saturated" cartridge should not exceed normal background levels, as determined with a low level survey meter, or additional lead foil (1/8" thick) will be wrapped around the cartridge until this background reading is achieved. The unit will be stored in the Hot Lab storage area and allowed to decay. The attached sketches, descriptions of shielding, and previously defined calculations of average concentrations in air should serve to also cover this final phase of Xe-133 handling procedures

We also confirm that all disposal items are to be surveyed with a low level g.m. survey meter to confirm exposure rates of normal background (less than 0.05 mR/hr) prior to disposal.



Dickinson County Memorial Hospital System

400 WOODWARD AVENUE • IRON MOUNTAIN, MI 49801 • TELEPHONE (906) 774-1313

To: GIDGET WATSON
From: JOHN SCHON *[Signature]*
Subject: AUTHORIZATION FOR RELOCATION OF NUCLEAR SERVICES
Date: October 25, 1996

Dickinson County Health Care System is building a replacement hospital and intends to occupy for service on 11-24-1996. This move will include the relocation of our Nuclear Service from 400 Woodward Avenue to Dickinson County Health Care System, 1721 S Stephenson Avenue, Iron Mountain, Mi., 49801. The Nuclear Medicine Department will be located in the Department of Radiology on the ground floor. Please address this authorization prior to our occupancy date of 11-24-1996.

John Schon
CEO

C. Douglas Maynard, M.D., *President*
Winston-Salem, North Carolina
Sarah S. Donaldson, M.D., *Vice President*
Stanford, California
William J. Casarella, M.D., *Secretary-Treasurer*
Atlanta, Georgia
David G. Bragg, M.D.
Salt Lake City, Utah
Robert E. Campbell, M.D.
Philadelphia, Pennsylvania
Edward L. Chaney, Ph.D.
Chapel Hill, North Carolina
Gerald D. Dodd, M.D.
Houston, Texas
Thomas S. Harle, M.D.
Houston, Texas
Jay R. Harris, M.D.
Boston, Massachusetts
Robert R. Hanczy, M.D.
Rochester, Minnesota
William R. Hender, Ph.D.
Milwaukee, Wisconsin
David H. Hussey, M.D.
Iowa City, Iowa

The American Board of Radiology

M. Paul Capp, M.D., Executive Director

Assistant Executive Directors
Robert E. Campbell, M.D., Diagnostic Radiology
Lawrence W. Davis, M.D., Radiation Oncology

5255 E. WILLIAMS CIRCLE, SUITE 6800
TUCSON, ARIZONA 85711

PHONE (520) 790-2900
FAX (520) 790-3200

George R. Leopold, M.D.
San Diego, California
John E. Madewell, M.D.
Hershey, Pennsylvania
Rodney R. Milton, M.D.
Gainesville, Florida
Carlos A. Perez, M.D.
St. Louis, Missouri
Andrew K. Poznanski, M.D.
Chicago, Illinois
Helen C. Redman, M.D.
Dallas, Texas
Joseph F. Sackett, M.D.
Madison, Wisconsin
Isaac Sanders, M.D.
Los Angeles, California
Melvyn H. Schreiber, M.D.
Galveston, Texas
Guy H. Simmons, Ph.D.
Lexington, Kentucky
H. Rodney Withers, M.D.
Los Angeles, California
James E. Youker, M.D.
Milwaukee, Wisconsin

July 19, 1996

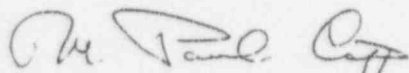
946207

W. R. JOHNSON
DICKINSON COUNTY MEDICAL HOSPITAL
RADIOLOGY MANAGER
400 WOODWARD AVENUE
IRON MOUNTAIN, MI 49801

This is to verify the status of the below-listed individual as you requested.

40886 JOHN STUART TO MD DOB: 4/10/63
Certified Diagnostic Radiology, 1996

Sincerely yours,



M. Paul Capp, M.D.

MPC:oph

CONVERSATION RECORD

TIME

DATE

10/23/96

☐ VISIT☐ CONFERENCE☒ TELEPHONE☐ INCOMING☒ OUTGOING

NAME OF PERSON(S) CONTACTED OR IN CONTACT

Dale Shampo, M.D., RSO

ORGANIZATION (OFFICE, DEPT. ETC.)

Dickinson County Hosp. 906/774-1313

TELEPHONE NO.

SUBJECT

License No. 21-18889-01

SUMMARY

I requested the following information in regards to amendmnt request dated June 3, 1996:

1. Hot lab diagram
2. Air concentration calculations
3. Dr. To's certification documentation
4. Management's authorization

Dr. Shampo stated that he would forward the inormation ASAP.

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION

SIGNATURE

DATE

ACTION TAKEN

SIGNATURE

TITLE

DATE