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EXHIBIT A

FORM NRC-313M (8-78) 10 CFR 35	U.S. NUCLEAR REGULATORY COMMISSION APPLICATION FOR MATERIALS LICENSE – MEDICAL	Approved: GAO R0557

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

South Community Hospital
1001 S.W. 44th
Oklahoma City, Oklahoma 73109
TELEPHONE NO.: AREA CODE (405) 636 7000

1.b. STREET ADDRESS(ES) AT WHICH RADIOACTIVE MATERIAL WILL BE USED *(If different from 1.a.)* INCLUDE ZIP CODE

2. PERSON TO CONTACT REGARDING THIS APPLICATION

Harold C. Hart, R.T.
Manager, Radiologic Services
TELEPHONE NO.: AREA CODE (405) 636 7339

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

a. ☐ NEW LICENSE
b. ☐ AMENDMENT TO LICENSE NO.
c. ☒ RENEWAL OF LICENSE NO. 35-13127-01

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

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.)*

John D. Bush, M.D.
Radiologist

6.a. RADIOACTIVE MATERIAL FOR MEDICAL USE

RADIOACTIVE MATERIAL LISTED IN:	ITEMS DESIRED "X"	MAXIMUM POSSESSION LIMITS (In millicuries)
10 CFR 31.11 FOR IN VITRO STUDIES		3.0
10 CFR 35.100, SCHEDULE A, GROUP I		AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP II		AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP III		2000
10 CFR 35.100, SCHEDULE A, GROUP IV		AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP V		AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP VI		1000

ADDITIONAL ITEMS:	MARK ITEMS DESIRED "X"	MAXIMUM POSSESSION LIMITS (In millicuries)
IODINE-131 AS IODIDE FOR TREATMENT OF HYPERTHYROIDISM		
PHOSPHORUS-32 AS SOLUBLE PHOSPHATE FOR TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA AND BONE METASTASES		
PHOSPHORUS-32 AS COLLOIDAL CHROMIC PHOSPHATE FOR INTRACAVITARY TREATMENT OF MALIGNANT EFFUSIONS.		
GOLD-198 AS COLLOID FOR INTRACAVITARY TREATMENT OF MALIGNANT EFFUSIONS.		
IODINE-131 AS IODIDE FOR TREATMENT OF THYROID CARCINOMA		
XENON-133 AS GAS OR GAS IN SALINE FOR BLOOD FLOW STUDIES AND PULMONARY FUNCTION STUDIES.		

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

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* The nuclear Medicine Department will use only unit dose vials. Approval is therefore requested for all Group III sources except generators.

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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. 1 Date: October 1980

7. MEDICAL ISOTOPES COMMITTEE

X	Names and Specialties Attached; and
X	Duties as in Appendix B; or *(Check One)*
	Equivalent Duties Attached

8. TRAINING AND EXPERIENCE

X	Supplements A & B Attached for Each Individual User; and or Previous License Number
X	Supplement A Attached for RSO. or Previous License Number

9. INSTRUMENTATION *(Check One)*

X	Appendix C Form Attached; or
	List by Name and Model Number

10. CALIBRATION OF INSTRUMENTS

X	Appendix D Procedures Followed for Survey Instruments; or *(Check One)*
	Equivalent Procedures Attached; and
X	Appendix D Procedures Followed for Dose Calibrator; or *(Check One)*
	Equivalent Procedures Attached

11. FACILITIES AND EQUIPMENT

X	Description and Diagram Attached

12. PERSONNEL TRAINING PROGRAM

X	Description of Training Attached

13. PROCEDURES FOR ORDERING AND RECEIVING RADIOACTIVE MATERIAL

X	Detailed Information Attached

14. PROCEDURES FOR SAFELY OPENING PACKAGES CONTAINING RADIOACTIVE MATERIALS *(Check One)*

	Appendix F Procedures Followed; or
X	Equivalent Procedures Attached

15. GENERAL RULES FOR THE SAFE USE OF RADIOACTIVE MATERIAL *(Check One)*

X	Appendix G Rules Followed; or
	Equivalent Rules Attached

16. EMERGENCY PROCEDURES *(Check One)*

X	Appendix H Procedures Followed; or
	Equivalent Procedures Attached

17. AREA SURVEY PROCEDURES *(Check One)*

X	Appendix I Procedures Followed; or
	Equivalent Procedures Attached

18. WASTE DISPOSAL *(Check One)*

X	Appendix J Form Attached; or
	Equivalent Information Attached

19. THERAPEUTIC USE OF RADIOPHARMACEUTICALS *(Check One)*

X	Appendix K Procedures Followed; or
	Equivalent Procedures Attached

20. THERAPEUTIC USE OF SEALED SOURCES

X	Detailed Information Attached; and
	Appendix L Procedures Followed; or *(Check One)*
X	Equivalent Procedures Attached

21. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE GASES (e.g., Xenon – 133)

	Detailed Information Attached N/A

22. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE MATERIAL IN ANIMALS

	Detailed Information Attached N/A

23. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE MATERIAL SPECIFIED IN ITEM 6.b

	Detailed Information Attached N/A

24. PERSONNEL MONITORING DEVICES

TYPE (Check appropriate box)			SUPPLIER	EXCHANGE FREQUENCY
a. WHOLE BODY		FILM	R.S. Landauer Jr. & Company	Monthly
		TLD		
		OTHER (Specify)		
b. FINGER		FILM		
		TLD	R.S. Landauer Jr. & Company	Monthly
		OTHER (Specify)		
c. WRIST		FILM		
		TLD		
		OTHER (Specify)		

d. OTHER (Specify)

25. FOR PRIVATE PRACTICE APPLICANTS ONLY

a. HOSPITAL AGREEING TO ACCEPT PATIENTS CONTAINING RADIOACTIVE MATERIAL

NAME OF HOSPITAL

MAILING ADDRESS

CITY | STATE | ZIP CODE

b. ATTACH A COPY OF THE AGREEMENT LETTER SIGNED BY THE HOSPITAL ADMINISTRATOR.

c. WHEN REQUESTING THERAPY PROCEDURES, ATTACH A COPY OF RADIATION SAFETY PRECAUTIONS TO BE TAKEN AND LIST AVAILABLE RADIATION DETECTION INSTRUMENTS.

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 *(See Section 170.31, 10 CFR 170)*

(1) LICENSE FEE CATEGORY: 7.C

(2) LICENSE FEE ENCLOSED: $ 580.00 submitted 7-29-85

b. APPLICANT OR CERTIFYING OFFICIAL *(Signature)*

(1) NAME *(Type or Print)* Joe Neely

(2) TITLE Executive Vice President

c. DATE August 28, 1986

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ITEM 7. MEDICAL ISOTOPES COMMITTEE

NAME	SPECIALTY
JOHN D. BUSH, M.D.	RADIOLOGIST (CHAIRMAN)
RALPH J. CRAMER, M.D.	RADIOLOGIST
WILLARD ARONSON, M.D.	PATHOLOGIST
DAN BARNES, R.PH.	PHARMACIST
BRAD BRADSHAW	HOSPITAL SAFETY AND SECURITY
MIKE CEDENO, R.T.	NUCLEAR MEDICINE TECHNOLOGIST
JOAN BOEMISCH, R.N.	ONCOLOGY NURSE
HAROLD C. HART, R.T.	MANAGER, RADIOLOGIC SERVICES
JOE NEELEY	EXECUTIVE VICE PRESIDENT
ALEXANDER P. TURNER, Ph.D.	RADIOLOGICAL PHYSICIST

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ITEM 4. INDIVIDUAL USERS

NAME	AUTHORIZED USE
DAVID E. ROGERS, M.D. RADIOLOGIST	GROUPS I, II, III, IV, V and VI IN VITRO STUDIES
JOHN D. BUSH, M.D. RADIOLOGIST	GROUPS I, II, III, IV, V and VI IN VITRO STUDIES
RALPH J. CRAMER, M.D. RADIOLOGIST	GROUPS I, II, III, IV, V and VI IN VITRO STUDIES
WILLIAM C. BRADFORD, M.D. RADIOLOGIST	GROUPS I, II, III, IV, V and VI IN VITRO STUDIES
KEN HARPER, M.D. RADIOLOGIST	GROUPS I, II, III, IV, V and VI IN VITRO STUDIES
RICHARD COOK, M.D. RADIOLOGIST	GROUPS I, II, III, IV, V and VI IN VITRO STUDIES
MORRIS J. WIZENBERG, M.D. RADIOTHERAPIST	GROUP VI
JOYCE M. EISENBRAUN, M.D. RADIOLOGIST	GROUPS I, II, III, IV, V and VI IN VITRO STUDIES
ALEXANDER P. TURNER, Ph.D. RADIOLOGICAL PHYSICIST	GROUP VI SEALED SOURCES INSTRUMENT CALIBRATION

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ITEM 8. TRAINING AND EXPERIENCE

NAME	PREVIOUS LICENSE AGENCY	NUMBER
DAVID E. ROGERS, M.D.	USNRC	35-13127-01
JOHN D. BUSH, M.D.	USNRC	35-13127-01
RALPH J. CRAMER, M.D.	USNRC	35-13127-01
WILLIAM C. BRADFORD, M.D.	SEE SUPPLEMENTS A&B	
KEN HARPER, M.D.	USNRC	35-07018-02
RICHARD COOK, M.D.	SEE SUPPLEMENTS A&B	
MORRIS J. WIZENBERG, M.D.	USNRC	35-13127-01
JOYCE M. EISENBRAUN, M.D.	USNRC	35-07018-02
ALEXANDER P. TURNER, Ph.D.	USNRC	35-07018-02

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FORM NRC-313M-SUPPLEMENT A
(8-78)

U.S. NUCLEAR REGULATORY COMMISSION

TRAINING AND EXPERIENCE
AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER	2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE
William C. Bradford, Jr., M.D.	Oklahoma

3. CERTIFICATION

SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C
American College of Radiology	Diagnostic Radiology	1982

4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	TYPE AND LENGTH OF TRAINING	
		LECTURE/ LABORATORY COURSES (Hours) C	SUPERVISED LABORATORY EXPERIENCE (Hours) D
a. RADIATION PHYSICS AND INSTRUMENTATION	Univ. Okla. Health Sciences Center Radiology Residency	30	86
b. RADIATION PROTECTION	July 1978 - June 1982 Nuclear Medicine October 1 - December 3 1978	5	35
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	" "	10	15
d. RADIATION BIOLOGY	" "	15	30
e. RADIOPHARMACEUTICAL CHEMISTRY	" "	10	25

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

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
99MO 99mTc 131 I 201 Tl 133 Xe 32 P	2 Curies 1.7 Curies 200mCi 3mCi 20mCi 15mCi	Univ. Okla. Health Sciences Center, Okla. Memorial Hospital, V.A.H., Okla Okla. Childrens Hospital OUHSC Nuclear Pharmacy	Three weeks City Nuclear Med. Fulltime	Diagnostic & Therapeutic

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NRC-313M-SUPPLEMENT B

U. S. NUCLEAR REGULATORY COMMISSION

PRECEPTOR STATEMENT

Supplement B must be completed by the applicant physician's preceptor. If more than one preceptor is necessary to document experience, obtain a separate statement from each.

1. APPLICANT PHYSICIAN'S NAME AND ADDRESS

FULL NAME

William C. Bradford, Jr., M.D.

STREET ADDRESS

Mercy Hospital, Dept. of Radiology
4300 West Memorial Road

CITY	STATE	ZIP CODE
Okalhoma City	OK	73120

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 A	CONDITIONS DIAGNOSED OR TREATED B	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION C	COMMENTS (Additional information or comments may be submitted in duplicate on separate sheets.) D
I-131 or I-125	DIAGNOSIS OF THYROID FUNCTION	35	
	DETERMINATION OF BLOOD AND BLOOD PLASMA VOLUME	4	
	LIVER FUNCTION STUDIES	0	
	FAT ABSORPTION STUDIES	0	
	KIDNEY FUNCTION STUDIES	47	
	IN VITRO STUDIES	1950	
OTHER			
I-125	DETECTION OF THROMBOSIS	0	
I-131	THYROID IMAGING	52	
P-32	EYE TUMOR LOCALIZATION	0	
Se-75	PANCREAS IMAGING	0	
Yb-169	CISTERNOGRAPHY	2	
Xe-133	BLOOD FLOW STUDIES AND PULMONARY FUNCTION STUDIES	7	
OTHER			
Tc-99m	BRAIN IMAGING	47	
	CARDIAC IMAGING	25	
	THYROID IMAGING	7	
	SALIVARY GLAND IMAGING	1	
	BLOOD POOL IMAGING	47	
	PLACENTA LOCALIZATION	0	
	LIVER AND SPLEEN IMAGING	148	
	LUNG IMAGING	45	
	BONE IMAGING	81	Item 8 8-28-86
OTHER			

FORM NRC-313M-SUPPLEMENT B
(8-78)

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 (Colloidal)	INTRACAVITARY TREATMENT	3	
I-131	TREATMENT OF THYROID CARCINOMA	3	
	TREATMENT OF HYPERTHYROIDISM	8	
Au-198	INTRACAVITARY TREATMENT	0	
Co-60 or Cs-137	INTERSTITIAL TREATMENT	0	
	INTRACAVITARY TREATMENT	0	
I-125 or Ir-192	INTERSTITIAL TREATMENT	0	
Co-60 or Cs-137	TELETHERAPY TREATMENT	0	
Sr-90	TREATMENT OF EYE DISEASE	0	
	RADIOPHARMACEUTICAL PREPARATION		
Mo-99/ Tc-99m	GENERATOR	0.4Ci	
Sn-113/ In-113m	GENERATOR	0	
Tc-99m	REAGENT KITS	5 kits	
Other			

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

October 1 - December 31, 1978
540 hours

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

a. NAME OF SUPERVISOR
E. William Allen, M.D.

b. NAME OF INSTITUTION
University of Olka. Health Sciences Center

c. MAILING ADDRESS
P.O.Box 26901

d. CITY
Oklahoma City, OK. 73190

e. MATERIALS LICENSE NUMBER(S)
35-16329-01, 35-16329-02

5. PRECEPTOR'S SIGNATURE
E William Allen MD

7. PRECEPTOR'S NAME *(Please type or print)*
E. William Allen, M.D.

8. DATE
8/19/82

FORM NRC-313M/SUPPLEMENT B
(8-78)

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FORM NRC-313M-SUPPLEMENT A (8-78)

U.S. NUCLEAR REGULATORY COMMISSION

TRAINING AND EXPERIENCE
AUTHORIZED USER OR RADIATION SAFETY OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION SAFETY OFFICER	2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE
Richard Cook, M.D.	OKLAHOMA

3. CERTIFICATION

SPECIALTY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C
American College of Radiology	General Radiology	June 1986

4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	TYPE AND LENGTH OF TRAINING	
		LECTURE/ LABORATORY COURSES (Hours) C	SUPERVISED LABORATORY EXPERIENCE (Hours) D
a. RADIATION PHYSICS AND INSTRUMENTATION	Univ of Oklahoma Health Sciences Center Dept of Radiolgoical Sciences	60	50
b. RADIATION PROTECTION	" "	8	30
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	" "	10	10
d. RADIATION BIOLOGY	" "	12	20
e. RADIOPHARMACEUTICAL CHEMISTRY	" "	10	20

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

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
99mTc 99Mo 131 I 201 Tl 133 Xe 32 P 169 Yb 67 Ga	1.7 Ci 2.0 Ci 200 mCi 3 mCi 20 mCi 15 mCi 0.5 mCi 5 mCi	University of OK Health Sciences Ctr V.A. Medical Center OK Teaching Hospital & Nuclear Pharmacy	Six months	Diagnostic & Therapeutic Item 8 8-28-86

FORM NRC-313M-SUPPLEMENT B
(8-78)

U. S. NUCLEAR REGULATORY COMMISSION

PRECEPTOR STATEMENT

Supplement B must be completed by the applicant physician's preceptor. If more than one preceptor is necessary to document experience, obtain a separate statement from each.

1. APPLICANT PHYSICIAN'S NAME AND ADDRESS

FULL NAME
Richard Cook, M.D.
Radiology Associates

STREET ADDRESS Mercy Health Center
4300 West Memorial Rd

CITY | STATE | ZIP CODE
Oklahoma City | OK | 73120

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 A	CONDITIONS DIAGNOSED OR TREATED B	NUMBER OF CASES INVOLVING PERSONAL PARTICIPATION C	COMMENTS *(Additional information or comments may be submitted in duplicate on separate sheets.)* D
I-131 or I-125	DIAGNOSIS OF THYROID FUNCTION	21	
	DETERMINATION OF BLOOD AND BLOOD PLASMA VOLUME	2	
	LIVER FUNCTION STUDIES	-	
	FAT ABSORPTION STUDIES	-	
	KIDNEY FUNCTION STUDIES	24	
	IN VITRO STUDIES	-	
OTHER		-	
I-125	DETECTION OF THROMBOSIS	-	
I-131	THYROID IMAGING	18	
P-32	EYE TUMOR LOCALIZATION	-	
Se-75	PANCREAS IMAGING	-	
Yb-169	CISTERNOGRAPHY	3	
Xe-133	BLOOD FLOW STUDIES AND PULMONARY FUNCTION STUDIES	0	
OTHER			
Tc-99m	BRAIN IMAGING	5	
	CARDIAC IMAGING	142	
	THYROID IMAGING	15	
	SALIVARY GLAND IMAGING		
	BLOOD POOL IMAGING	53	
	PLACENTA LOCALIZATION	-	
	LIVER AND SPLEEN IMAGING	39	
	LUNG IMAGING	30	
	BONE IMAGING	117	
OTHER	201 Tl Myocardial Perfusion	8	Item 8 8-28-86

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	2	#1. A 99mTc generator was eluted 10 times and on each elution the eluate was measured for 99mTc activity and 99Mo contamination.
P-32 *(Colloidal)*	INTRACAVITARY TREATMENT	1	
I-131	TREATMENT OF THYROID CARCINOMA	7	
	TREATMENT OF HYPERTHYROIDISM	5	
Au-198	INTRACAVITARY TREATMENT		
Co-60 or Cs-137	INTERSTITIAL TREATMENT		
	INTRACAVITARY TREATMENT		#2. Five types of kits were prepared including, MDP, Tc_2-S_7, MAA, Pyrophosphate and DTPA. For each kit the amount of activity was measured and the Q.C. for each preparation was evaluated.
I-125 or Ir-192	INTERSTITIAL TREATMENT		
Co-60 or Cs-137	TELETHERAPY TREATMENT		
Sr-90	TREATMENT OF EYE DISEASE		
	RADIOPHARMACEUTICAL PREPARATION		
Mo-99/ Tc-99m	GENERATOR	See #1	
Sn-113/ In-113m	GENERATOR		
Tc-99m	REAGENT KITS	See #2	
Other			

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

Nuclear Medicine Training occurred from January 1, 1984 to May 31, 1985 and from December 1, 1985 through March 31, 1986 and was part of Radiology Residence from July 1, 1982 to June 30, 198
Total number of hours in excess of 1000 hours.

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

a. NAME OF SUPERVISOR
E. W. Allen, M.D.

b. NAME OF INSTITUTION
University of OK H.S.C.

c. MAILING ADDRESS
p.o. Box 26901

d. CITY
Oklahoma City, OK 73190

5. MATERIALS LICENSE NUMBER(S)
35-21395-01 OK Teaching Hospitals

6. PRECEPTOR'S SIGNATURE
E W Allen MD

7. PRECEPTOR'S NAME *(Please type or print)*
E. W. Allen, M.D.

8. DATE
19 August 1986

FORM NRC-313M-SUPPLEMENT 8
(8-78)

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ITEM 9. INSTRUMENTATION

APPENDIX C

INSTRUMENTATION

1. Survey meters

   a. Manufacturer's name: Nuclear Chicago

   Manufacturer's model number: 2650

   Number of instruments available: 1

   Minimum range: 0 mR/hr to 0.1 mR/hr

   Maximum range: 0 mR/hr to 100 mR/hr

   b. Manufacturer's name: Eberline

   Manufacturer's model number: ESP-1 (Probes: HP-270; HP-210 AL)

   Number of instruments available: 1

   Minimum range: 0 (background) mR/hr to 5000 mR/hr Probe HP-270

   Maximum range: 0 (background) mR/hr to 20,000 cps ~~mR/hr~~ Probe HP-210 AL

2. Dose calibrator

   Manufacturer's name: Syncor (Capintec)

   Manufacturer's model number: CRC-7

   Number of instruments available: 1

3. Instruments used for diagnostic procedures

Type of Instrument	Manufacturer's Name	Model No.
Analyzer/Scaler	Searle	8725
Dual Scintillation Probe with Renaltron IV	Searle	1710
Scintillation Well	Searle	D S 202(V)
Rectinlinear Scanner	Searle	1746
Scintillation Camera	Searle	Pho Gamma IV
Scintillation Camera	General Electric	Model 440

4. Other (e.g., liquid scintillation counter, area monitor, velometer)

APPENDIX D
CALIBRATION OF DOSE CALIBRATOR

A. Sources Used for Lincarity Test

(Check as appropriate)

_____ First elution from new Mo-99/Tc-99m generator

or

__X__ Other* (specify) Unit Dose Tc-99m Vial (~100mCi)

B. Sources Used for Instrument Accuracy and Constancy Tests

Radionuclide	Suggested Activity (mCi)	Activity (mCi)	Accuracy
Co-57	3-5	5.41 (4-28-86)	±3.9%
Ba-133	0.1-0.5	0.284 (8-1-85)	±5.0%
Cs-137	0.1-0.2	0.161 (4-28-86)	±3.9%
Ra-226	1-2	_____	_____
_____		_____	_____

C. __X__ The procedures described in Section 2 of Appendix D will be used for calibration of the dose calibrator

or

_____ Equivalent procedures are attached.

*For licensees who are not authorized for Mo-99/Tc-99m generators, activity must be equivalent to the highest activity used.

ITEM 10. CALIBRATION OF INSTRUMENTS

APPENDIX D

CALIBRATION OF SURVEY INSTRUMENTS

Check appropriate items.

X 1. Survey instruments will be calibrated at least annually and following repair.

X 2. Calibration will be performed at two points on each scale used for radiation protection purposes, i.e., at least up to 1 R/hr.

The two points will be approximately 1/3 and 2/3 of full scale. A survey instrument may be considered properly calibrated when the instrument readings are within ± 10 percent of the calculated or known values for each point checked. Readings within ± 20 percent are considered acceptable if a calibration chart, graph, or response factor is prepared, attached to the instrument, and used to interpret readings to within ± 10 percent. Also, when higher scales are not checked or calibrated, an appropriate precautionary note will be posted on the instrument.

3. Survey instruments will be calibrated

____ a. By the manufacturer

X b. At the licensee's facility

(1) Calibration source

Manufacturer's name 3M
Model no. 6B6G-LI
Activity in millicuries 114.2 mg.Ra.eq. Cs-137 Total (2-24-77)
or
Exposure rate at a specified distance ____
Accuracy ± 5%
Traceability to primary standard Yes

X (2) The calibration procedures in Section I of Appendix D will be used

or

____ (3) The step-by-step procedures, including radiation safety procedures, are attached.

____ c. By a consultant or outside firm

(1) Name ____

(2) Location ____

(3) Procedures and sources

____ have been approved by NRC and are on file in License No. ____

____ have been approved by an Agreement State; a copy of the Agreement State license, the procedures, and a description of the sources are attached, and the consultant's report will contain the information on

____ the attached "Certificate of Instrument Calibration."
____ the consultant's reporting form as attached.

____ are described in the attachment, and the consultant's report will contain the information on

____ the attached "Certificate of Instrument Calibration."
____ the consultant's reporting form as attached.

4. Calibration of survey instruments will be performed by, or under the supervision of Alexander P. Tuner, Ph.D.
5. Calibration of survey instruments will be performed in the brachytherapy sealed source storage safe room within the Radiation Therapy Department. This is a controlled area.
6. Procedures for calibrating leak test instruments are attached.

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Item 10.
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ITEM 10. LEAK TESTS OF SEALED SOURCES

1. Instrumentation

   a. Eberline: Meter- Model ESP-1
   Thin window pancake GM detector-Model HP 210 AL
   Sample holder- Model SH-4A

   b. Sensitivity: Gamma sensitivity $\leq$ 3600 cpm/mR/hr (Cs-137)
   Beta efficiency $\leq$ 45% Sr-90:Y-90
   $\leq$ 30% Tc-99m
   $\leq$ 10% C-14
   Beta sensitive down to 40 keV
   Alpha sensitive above 3 MeV

   c. Range: Beta and gamma range-background to 100,000 cps with 5% or better standard deviation over 14 cps to 100,000 cps range.

   d. Detectable activity: greater than 1×10^{-4} μCi

2. Calibrating and standardizing procedures

   a. Bkg.- A background reading will be determined for the instrument.

   b. Inst. Rdg. Std.- A calibrated check source will be used to calibrate the instrument prior to each leak test measurement. The activity of the check source (μCi Std.) will be decay corrected to the day of use. The check source will be placed in the sample holder and a reading taken.

   c. Inst. Rdg. Swipe- The swipe will be placed in the sample holder and a reading taken.

   d. Activity of swipe (μCi Swipe)- Calculated by the following

$$\mu\text{Ci Swipe} = \mu\text{Ci Std.}\left[\frac{(\text{Inst. Rdg Swipe-Bkg})}{(\text{Inst. Rdg Std- Bkg})}\right]$$

3. Smear Tests

   a. Nuclear Associates Decon Swipes Model 03-204 will be used for taking smears.

   b. Long forceps will be used to hold Swipe and rub it against the surface of the source, or on the nearest accessible surface to the source.

   c. Tweezers will be used to transfer the swipe from the end of the forceps to an aluminum planchet for counting.

d. In the event a Swipe contains an activity which cannot be disposed of as normal trash, the Swipe will be held in the hot lab for disposal as radioactive waste.

4. Person leak testing sealed sources.

Alexander P. Turner, Ph.D., will take and evaluate smear tests. His training and experience is listed in Item 4 of this application.

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8-28-86

ITEM 11. FACILITIES AND EQUIPMENT

Nuclear Medicine Room #1 (864)

Searle Pho Gamma IV Scintillation Camera
Exhaust vent available for Tc-99 ventillation studies

Nuclear Medicine Room #2 (867)

G.E. Model 440 Scintillation Camera

Nuclear Medicine Room #3 (868)

Searle Model 1710 Dual Scintillation Probe with Renaltron IV
Searle Model 1746 Rectilinear Scanner

Laboratory (870)

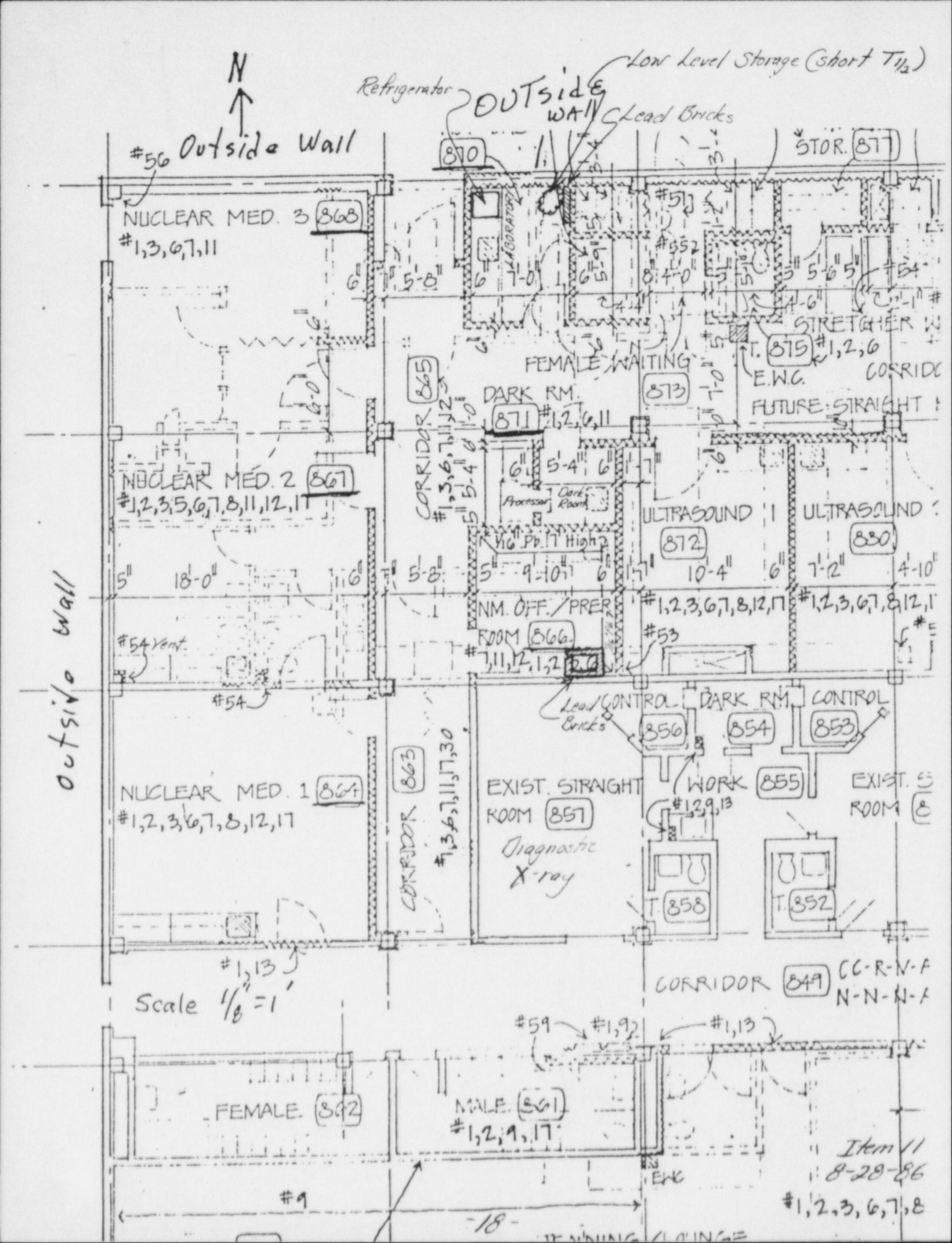
Low level lab and storage for short half life waste (behind lead bricks)
Refrigerator for storage of radiopharmaceuticals

Nuclear Medicine Office/Prep. (866)

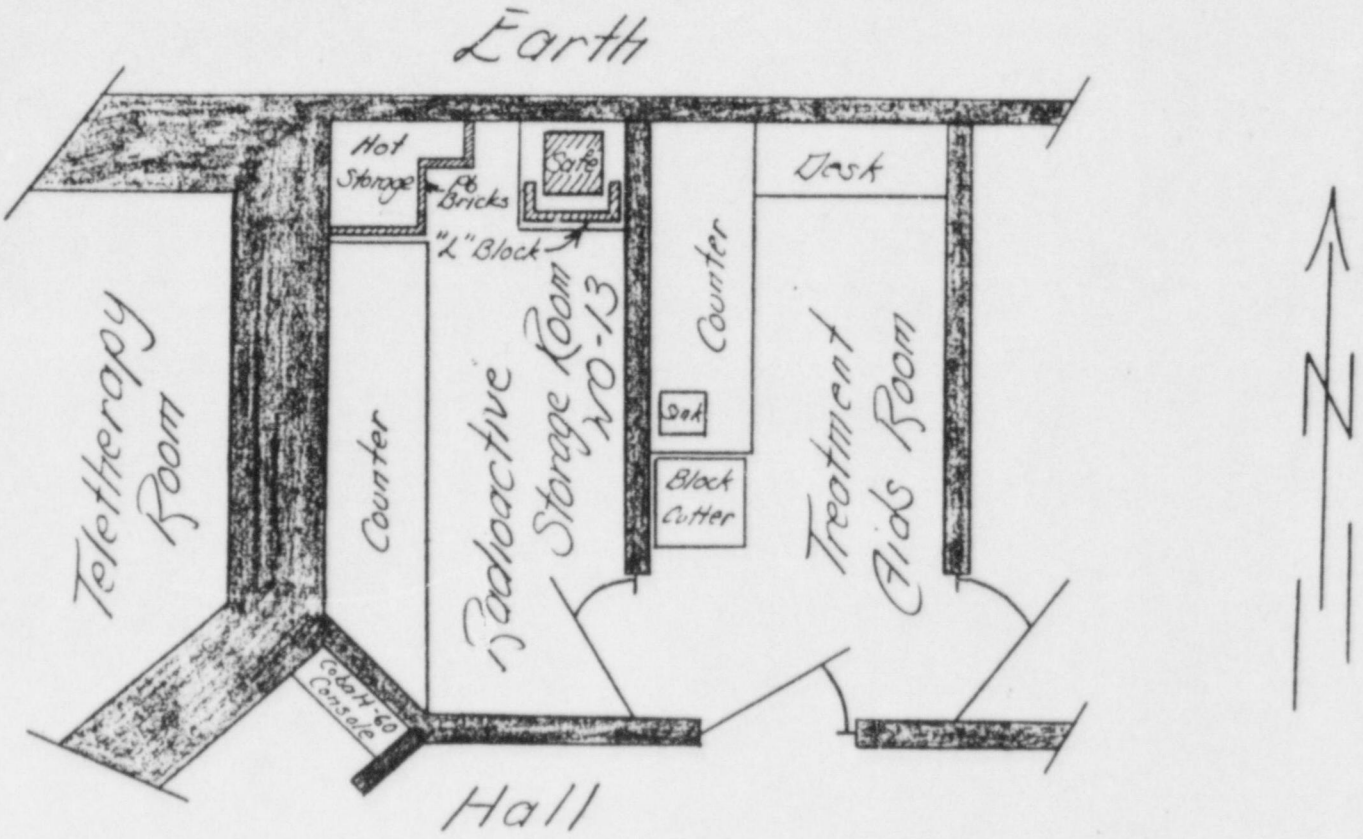
Syncor Dose Calibrator
Storage of non-refrigerated radiopharmaceutical and dose calibrator
Calibration sources (behind lead bricks)
Preparation and dispensing of Group III radiopharmaceuticals (behind lead bricks)

Brachytherapy Source Storage (WO-13)

Radioactive waste storage (behind lead bricks)
Brachytherapy source storage (in safe)


N
Low Level Storage (short T1/2)
Refrigerator
OUTSIDE WALL
Lead Bricks
#56 Outside Wall
870
STOR. 877
NUCLEAR MED. 3 868
#1,3,6,7,11
LABORATORY
#55
#54
STRETCHER
#1,2,6
T. 875
E.W.C.
CORRIDOR
FEMALE WAITING 873
DARK RM. 871
#1,2,6,11
CORRIDOR 865
#1,3,6,7,11,12
FUTURE STRAIGHT
NUCLEAR MED. 2 867
#1,2,3,5,6,7,8,11,12,17
Processor
Dark Room
1/16" Pb. 7' High
ULTRASOUND 872
ULTRASOUND 880
#1,2,3,6,7,8,12,17
NM. OFF./PRER ROOM 866
#1,11,12,1,2
#53
#54 Vent.
Lead Bricks
CONTROL 856
DARK RM. 854
CONTROL 853
NUCLEAR MED. 1 861
#1,2,3,6,7,8,12,17
CORRIDOR 863
#1,3,6,7,11,17,30
EXIST. STRAIGHT ROOM 857
Diagnostic X-ray
WORK 855
#1,2,9,13
EXIST. ROOM
T. 858
T. 852
#1,13
Scale 1/8" = 1'
CORRIDOR 849
#59
#1,9
#1,13
FEMALE 862
MALE 861
#1,2,9,17
E.W.C.
Item #1
8-28-96
#1,2,3,6,7,8
#9
18

Brachytherapy Source Storage
Basement Level - South Community Hospital
in Radiotherapy Department



Scale '4" = 1'

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ITEM 12. PERSONNEL TRAINING PROGRAM

We will establish and implement the training program that was published in Item 12 beginning on page 6 of Regulatory Guide 10.8, Revision 1.

Personnel	Method of Training	Frequency	Subject Matter
Technologists	Written and / or lecture *	Note #1	Note #1
Oncology Nurses	Written and / or lecture *	Note #1	Note #1
Housekeeping	Written and / or lecture *	Note #1	Note #1
Security	Written and / or lecture *	Note #1	Note #1
Clerical **	Written and / or lecture *	Note #1	Note #1

* Video tape and / or lectures
** If work requires access to restricted areas

Note #1 Refer to Regulatory Guide 10.8, Revision 1.

Item 12.
8-28-86

ITEM 13. PROCEDURES FOR ORDERING AND RECEIVING RADIOACTIVE MATERIAL

1. The Nuclear Medicine Technologist will place all orders for radioactive materials and will ensure that the requested materials and quantities are authorized by the license and that possession limits are not exceeded.

2. The system for ordering and receiving radioactive materials will consist minimally of the following:

   a. Ordering of routinely used materials (diagnostic quantities)

      (1) Unit dose vials will be ordered from the Nuclear Pharmacy.

      (2) Written records that identify the isotope, compound, activity and supplier will be kept on all shipments.

   b. Ordering of specially used materials (therapeutic quantities)

      (1) A written request will be obtained from the physician who will perform the procedure.

      (2) The physician's request will indicate isotope, compound and activity.

      (3) Written records that identify the isotope, compound, activity and supplier will be kept on all shipments.

      (4) Unit dose vials will be ordered from the Nuclear Pharmacy.

3. All unit dose vials will be delivered during working hours and will be delivered directly to the Nuclear Medicine Department.

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8-28-86

ITEM 14.

PROCEDURES FOR SAFELY OPENING PACKAGES CONTAINING RADIOACTIVE MATERIAL

1. Special requirements will be followed for packages containing quantities of radioactive material in excess of the Type A quantity limits as specified in paragraphs 20.205(a)(1) and (c)(1) of 10 CFR Part 20 (more than 20 Ci for Mo-99 and Tc-99m). They will be monitored for surface contamination and external radiation levels within 3 hours after receipt if received during working hours or within 18 hours if received after working hours, in accordance with the requirements of paragraphs 20.205(a) through (c). All shipments of liquids greater than exempt quantities will be tested for leakage. The NRC Regional Office will be notified in accordance with the regulations if removable contamination exceeds 0.01 μCi/100 cm^2 or if external radiation levels exceed 200 mR/hr at the package surface or 10 mR/hr at 3 feet (or 1 m).

2. For all packages, the following additional procedures for opening packages will be carried out:

   a. Put on gloves to prevent hand contamination.

   b. Visually inspect package for any sign of damage (e.g., wetness, crushed). If damage is noted, stop procedure and notify Radiation Safety Officer.

   c. Measure exposure rate at 3 feet (or 1 m) from package surface and record. If >10 mR/hr, stop procedure and notify Radiation Safety Officer.

   d. Measure surface exposure rate and record. If >200 mR/hr, stop procedure and notify Radiation Safety Officer.

   e. Open the package with the following precautionary steps:

      (1) Open the outer package (following manufacturer's directions, if supplied) and remove packing slip.

      (2) Open inner package and verify that contents agree with those on packing slip. Compare requisition,* packing slip, and label on bottle.

      (3) Check integrity of final source container (i.e., inspect for breakage of seals or vials, loss of liquid, and discoloration of packaging material).

      (4) Check also that shipment does not exceed possession limits.

   f. Wipe external surface of final source container and remove wipe to low background area. Assay the wipe and record amount of removable radioactivity (e.g., μCi/100 cm^2, etc.). Check wipes with a thin-end-window G-M survey meter, and take precautions against the spread of contamination as necessary.

   g. Monitor the packing material and packages for contamination before discarding.

      (1) If contaminated, treat as radioactive waste.

      (2) If not contaminated, obliterate radiation labels before discarding in regular trash.

3. Maintain records of the results of checking each package, using "Radioactive Shipment Receipt Record" (see next page) or a form containing the same information.

---

*In the case of special orders (e.g., therapy doses), also compare with physician's written request.

4. Unit dose vials received from a local radiopharmacy will be surveyed the day of receipt and before use. The surface exposure rate will be measured in mR/hr (action level: > 200 mR/hr). A wipe of the outer package and of the source container will be made to determine removable activity (action level: 22 dpm/cm^2 net). If either action level is exceeded, or the shipment appears damaged, the Radiation Safety Officer will be immediately notified. The dose slips will be checked for patient name, radiopharmaceutical, and activity. Gloves will be used to prevent hand contamination. A record will be maintained of the exposure rate and wipe tests.

Item A.
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ITEM 17. AREA SURVEY PROCEDURES

1. Laboratory areas where only small quantities of radioactive material are used (less than 200 μCi) will be surveyed monthly.

2. Waste storage, elution, preparation and injection areas will be surveyed weekly.

3. The weekly and monthly surveys will consist of:

   a. Measurement of radiation levels with a survey meter

   b. Wipe tests to measure contamination levels.

4. A permanent record will be kept of survey results. The record will include:

   a. Date, area surveyed and initials of technologist conducting the survey.

   b. Exposure rates measured with survey meter in areas identified in 4 (a).

   c. Detected contamination levels in areas identified in 4 (a).

   d. Corrective actiontaken in case of contamination or excessive exposure rates, reduced contamination levels or exposure rates after corrective action, and any appropriate comments.

5. Corrective action will be initiated if contamination levels exceeds 200 dpm / 100cm^2 and/or if exposure rate levels exceeds 2 m R/hr.

Item 17.
8-28-86

ITEM 18

APPENDIX J

WASTE DISPOSAL

Note: In view of the recent problems with shallow-land burial sites used by commercial waste disposal firms, NRC is encouraging its licensees to reduce the volume of wastes sent to these facilities. Important steps in volume reduction are to segregate radioactive from nonradioactive waste, to hold short-lived radioactive waste for decay in storage, and to release certain materials in the sanitary sewer in accordance with § 20.303 of 10 CFR Part 20.

1. Liquid waste will be disposed of (check as appropriate)

__X__ In the sanitary sewer system in accordance with § 20.303 of 10 CFR Part 20.

_____ By commercial waste disposal service (see also Item 4 below).

_____ Other (specify): _____

2. Mo-99/Tc-99m generators will be (check as appropriate)

_____ Returned to the manufacturer for disposal.

_____ Held for decay* until radiation levels, as measured in a low background area with a low-level survey meter and with all shielding removed, have reached background levels. All radiation labels will be removed or obliterated, and the generators will be disposed of as normal trash.**

_____ Disposed of by commercial waste disposal service (see also Item 4 below).

_____ Other (specify): Not applicable

3. Other solid waste will be (check as appropriate)

__X__ Held for decay* until radiation levels, as measured in a low background area with a low-level survey meter and with all shielding removed, have reached background levels. All radiation labels will be removed or obliterated, and the waste will be disposed of in normal trash.

_____ Disposed of by commercial waste disposal service (see also Item 4 below).

_____ Other (specify): _____

4. The commercial waste disposal service used will be

Not applicable
(Name) (City, State)

NRC/Agreement State License No. _____

* Be sure that waste storage areas were described in Item 11 and that they are surveyed periodically (Item 17).

** These generators may contain long-lived radioisotopic contaminants. Therefore, the generator columns will be segregated so that they may be monitored separately to ensure decay to background levels prior to disposal.

Item 18
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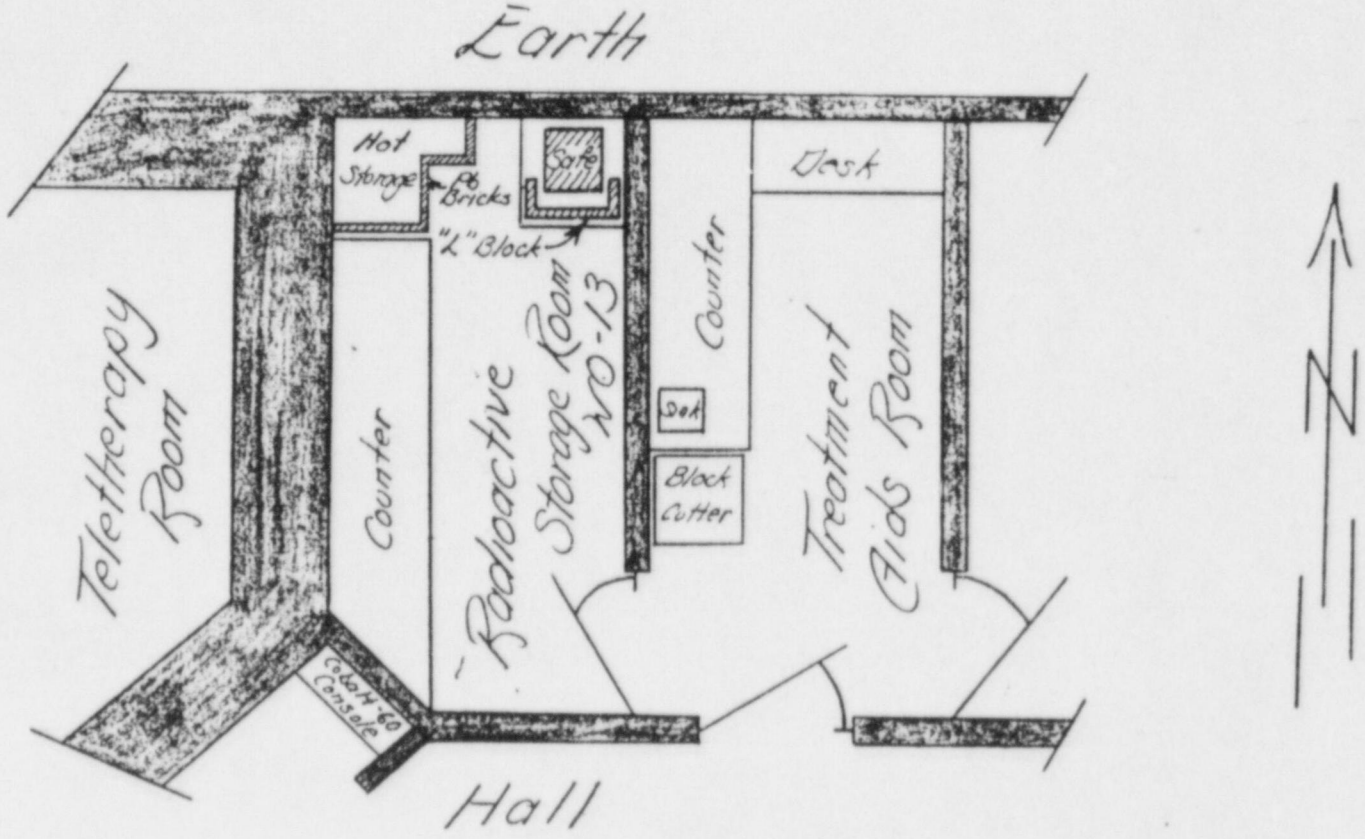
a. Brachytherapy Source Storage
Basement Level - South Community Hospital
in Radiotherapy Department



Teletherapy Room and Radioactive Storage Rooms are Restricted
All other areas are Unrestricted.
Radioactive Storage Room is locked when not in use.

1. Safe · 6" above	0.8	mR/hr	ALL SOURCES PRESENT
6" front	3.2	mR/hr	Yes — Yes or No
6" left	1.0	mR/hr	
6" right	0.4	mR/hr	
2. "L" Block eyes	≤0.1	mR/hr	
gonads	≤0.1	mR/hr	July 15, 1986 — Date
3. Teletherapy Room	≤0.1	mR/hr	
4. Treatment Aids Room	0.1	mR/hr	
5. Hall (Co-60 Console)	≤0.1	mR/hr	Alexander P. Turner, Ph.D.

Alexander P. Turner, Ph.D.
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Survey Meter: Eberline ESP-1, #686
GM Detector HP-270, #604698

ITEM 20. THERAPEUTIC USE OF SEALED SOURCES
(continued)

b. Sealed sources are handled with long forceps. Personnel handling sources stand behind the "L" block shield and view the sources through the shielded window in the "L" block.

c. Radiation doses to the extemities of personnel handling sealed sources are monitored with a finger TLD badge.

d. Sealed sources are transported between the storage site and place of use in a lead pig designed for this purpose.

e. & f. An inventory book is maintained for source accountability. The following are included: list of sources in inventory, dates of source removal and return, initials of person(s) removing and returning sources, sources removed, patient name, type of implant, inventory source count after source removal, inventory source count after source return, and record of patient's room survey during and upon completion of implant. An inventory of all sealed sources will be done quarterly. Record of inventory will be made in the inventory book.

g.) RADIATION SAFETY PROCEDURES FOR THERAPEUTIC USE OF SEALED SOURCES*

1. All patients treated with brachytherapy sources will be placed in a private room that has a toilet.

2. The patient's room will be properly posted or attended in accordance with §§ 20.203 or 20.204 of 10 CFR Part 20.

3. Surveys of the patient's room and surrounding areas will be conducted as soon as practicable after sources are implanted. Exposure rate measurements will be taken at 3 feet (or 1 m) from the patient with sources implanted, at the patient's bedside, at 3 feet (or 1 m) from the bed, and at the entrance to the room. The Radiation Safety Officer or his designee will then determine how long a person may remain at these positions and will post these times and the exposure rate at 3 feet (or 1 m) from the patient on the patient's chart.

4. Immediately after sources are implanted, the form "Nursing Instructions for Patients Treated with Brachytherapy Sources" will be completed and attached to the patient's chart.

5. Radiation levels in unrestricted areas will be maintained less than the limits specified in paragraphs 20.105(b)(1) and (b)(2) of 10 CFR Part 20.

6. Nurses caring for brachytherapy patients may be assigned film or TLD badges. TLD finger badges may also be assigned to nurses who must provide extended personal care to the patient. Pocket dosimeters may be assigned in addition to a film or TLD badge.

7. At the conclusion of treatment, a survey will be performed in accordance with paragraph 35.14(b)(5)(vii) of 10 CFR Part 35 to ensure that all sources other than permanent implants have been removed from the patient and that no sources remain in the patient's room or in any other area occupied by the patient. At the same time, all radiation signs will be removed and all film and TLD badges assigned to nurses will be collected. If the patient is to be discharged, the final survey will also include a notation on the patient's chart that the activity remaining in the patient meets conditions for release from the hospital.

8. Instructions to Nurses

   a. Special restrictions may be noted on the precaution sheet on the patient's chart. Nurses should read these instructions before administering to the patient. The Radiation Safety Officer should be contacted to answer any questions about the care of these patients in regard to radiation safety precautions.

   b. Nurses should spend only the minimum time necessary near a patient for routine nursing care. Obtain and wear a film or TLD badge or a pocket chamber as instructed by the Radiation Safety Officer.

   c. When a nurse is assigned to a therapy patient, a film or TLD badge should be obtained (if indicated) from the Radiation Safety Officer or his designee. The badge shall be worn only by the nurse to whom it is issued and shall not be exchanged among nurses.

   d. Pregnant nurses should not be assigned to the personal care of these patients.

   e. Never touch needles, capsules, or containers holding brachytherapy sources. If a source becomes dislodged, use long forceps and put it in the corner of the room or in the shielded container provided; contact Radiation Therapy, the Radiation Safety Officer, or the Nuclear Medicine Department at once.

   f. Bed bath given by the nurse should be omitted while the sources are in place.

   g. Perineal care is not given during gynecologic treatment; the perineal pad may be changed when necessary unless orders to the contrary have been written.

   h. Surgical dressings and bandages used to cover the area of needle insertion may be changed only by the attending physician or radiologist and MAY NOT BE DISCARDED until directed by the radiologist. Dressings should be kept in a basin until checked by the Radiation Safety Officer or his designee.

      Special orders will be written for oral hygiene for patients with oral implants.

   i. No special precautions are needed for sputum, urine, vomitus, stools, dishes, instruments, or utensils unless specifically ordered, but these items should be saved for a check with a radiation survey meter to ensure that no sources have been inadvertently displaced into them.

* Be sure to submit complete responses to Items 20a through 20f in addition to referencing procedures in Appendix L.

j. All bed linens must be checked with a radiation survey meter before being removed from the patient's room to ensure that no dislodged sources are inadvertently removed.

k. These patients must stay in bed unless orders to the contrary are written. In any event, patients will remain in their assigned rooms during the treatment period.

l. Visitors will be limited to those 18 years of age or over unless other instructions are noted on the precaution sheet on the patient's chart.

m. Visitors should sit at least 3 feet (or 1 m) from the patient and should remain no longer than the time specified on the form posted on the patient's door and on his chart.

n. No nurse, visitor, or attendant who is pregnant should be permitted in the room of a patient while brachytherapy sources are implanted in the patient. Female visitors should be asked whether they are pregnant.

o. Emergency Procedures

(1) If an implanted source becomes loose or separated from the patient, or

(2) If the patient dies, or

(3) If the patient requires emergency surgery, immediately call _____

_____

Telephone No. (days) _____

(nights) _____

p. At the conclusion of treatment, call the Radiation Safety Officer to (1) survey the patient and room, (2) count the radiation sources to be sure that all temporary implants have been removed prior to discharging the patient, and (3) record a summary of the final survey results on the patient's chart. If any permanent implants are to remain in the patient, the Radiation Safety Officer will brief the patient on precautions for minimizing radiation exposure to others after discharge from the hospital.

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NURSING INSTRUCTIONS FOR PATIENTS TREATED WITH BRACHYTHERAPY SOURCES

Patient's Name: _____

Room Number: _____ Physician's Name: _____

Isotope and Activity: _____

Date and Time of Administration: _____

Date and Time Sources Are To Be Removed: _____ Isotope: _____

Exposure Rates in mR/hr

Bedside	3 feet from bed	10 feet from bed

(Comply with all checked items.)

_____ 1. Wear film or TLD badge.

_____ 2. Wear pocket chambers for supplementary personnel monitoring of individual tasks.

_____ 3. Wear rubber gloves.

_____ 4. Tag the following objects and fill out the tag:

_____ door _____ chart

_____ bed _____ wrist

_____ 5. Place laundry in linen bag and save.

_____ 6. Housekeeping may not enter the room.

_____ 7. Visiting time permitted: _____

_____ 8. Visitors must remain _____ from patient.

_____ 9. Patient may not leave the room.

_____ 10. Patient may not have visitors.

_____ 11. Patient may not have pregnant visitors.

_____ 12. Patient may not have visitors under 18 years of age.

_____ 13. Patient must have a private room.

_____ 14. A dismissal survey must be performed before the patient is discharged.

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____ 15. All items must remain in the room until approved for disposal by the Radiation Safety Officer or his designee.

____ 16. Contact the Radiation Safety Office when temporary sources (nonpermanent implants) are removed to perform a survey to be sure all sources are removed from the patient, to do a physical source count, and to be sure no sources remain in the room.

____ 17. Contact the Radiation Safety Office when the patient is discharged to survey the room prior to its assignment to another patient.

____ 18. Other instructions.

RSO

Name

On-duty/Off-duty Telephone Numbers

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