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

Blanchard Valley Hospital
145 W. Wallace
Findlay, Ohio 45840

TELEPHONE NO.: AREA CODE(419 423-2311

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

David Lai, M.D.

TELEPHONE NO.: AREA CODE(419 423-2311

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

a. ☐ NEW LICENSE
b. ☐ AMENDMENT TO LICENSE NO.
c. ☒ RENEWAL OF LICENSE NO. 34-06295-02

4. INDIVIDUAL USERS *(Name individuals who will use or directly supervise use of radioactive material. Complete Supplements A and B for each individual.)*

LeRoy Schroeder, M.D.
K.T.Ang, M.D.
Austin Tidaback, M.D.
David Lai, M.D.
Manual Sarmina, M.D.

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.)*

LeRoy Schroeder, M.D.

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	X	200mCi
10 CFR 35.100, SCHEDULE A, GROUP I	X	AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP II	X	AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP III	X	2 Ci
10 CFR 35.100, SCHEDULE A, GROUP IV	X	AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP V	X	AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP VI		

ADDITIONAL ITEMS:	MARK ITEMS DESIRED "X"	MAXIMUM POSSESSION LIMITS (In millicuries)
IODINE-131 AS IODIDE FOR TREATMENT OF HYPERTHYROIDISM	X	50mCi
PHOSPHORUS-32 AS SOLUBLE PHOSPHATE FOR TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA AND BONE METASTASES	X	20mCi
PHOSPHORUS-32 AS COLLOIDAL CHROMIC PHOSPHATE FOR INTRACAVITARY TREATMENT OF MALIGNANT EFFUSIONS.	X	12mCi
GOLD-198 AS COLLOID FOR INTRACAVITARY TREATMENT OF MALIGNANT EFFUSIONS.		
IODINE-131 AS IODIDE FOR TREATMENT OF THYROID CARCINOMA	X	200mCi
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
NONE		–	–

34-2756

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: Nov. 1, 1977

NURER - 0338

7. MEDICAL ISOTOPES COMMITTEE		**15. GENERAL RULES FOR THE SAFE USE OF RADIOACTIVE MATERIAL** *(Check One)*	
X	Names and Specialties Attached; and	X	Appendix G Rules Followed; or Rev. 1 Date: Nov. 1, 1977
X	Duties as in Appendix B; or Rev. 1 Date: Nov.1,1977 *(Check One)*		Equivalent Rules Attached
	Equivalent Duties Attached	**16. EMERGENCY PROCEDURES** *(Check One)*	
8. TRAINING AND EXPERIENCE		X	Appendix H Procedures Followed; or Rev. 1 Date: 11/1/77
X	Supplements A & B Attached for Each Individual User; and Rev.1 Date: Nov.1, 1977		Equivalent Procedures Attached
X	Supplement A Attached for RSO Rev. 1 Date:Nov.1,1977	**17. AREA SURVEY PROCEDURES** *(Check One)*	
9. INSTRUMENTATION *(Check One)*		X	Appendix I Procedures Followed; or Rev.1 Date:11/1/77
X	Appendix C Form Attached; or Rev. 1 Date: Nov.1,1977		Equivalent Procedures Attached
	List by Name and Model Number	**18. WASTE DISPOSAL** *(Check One)*	
10. CALIBRATION OF INSTRUMENTS		X	Appendix J Form Attached; or Rev.1 Date: 11/1/77
X	Appendix D Procedures Followed for Survey Instruments; or Rev.1 Date:11/1/77 *(Check One)*		Equivalent Information Attached
	Equivalent Procedures Attached; and	**19. THERAPEUTIC USE OF RADIOPHARMACEUTICALS** *(Check One)*	
X	Appendix D Procedures Followed for Dose Calibrator; or Rev.1 Date;11/1/77 *(Check One)*	X	Appendix K Procedures Followed; or Rev.1 Date:11/1/77
	Equivalent Procedures Attached		Equivalent Procedures Attached
11. FACILITIES AND EQUIPMENT		**20. THERAPEUTIC USE OF SEALED SOURCES**	
X	Description and Diagram Attached		Detailed Information Attached; and
12. PERSONNEL TRAINING PROGRAM			Appendix L Procedures Followed; or *(Check One)*
X	Description of Training Attached	X	Equivalent Procedures Attached not requested
13. PROCEDURES FOR ORDERING AND RECEIVING RADIOACTIVE MATERIAL		**21. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE GASES (e.g., Xenon – 133)**	
X	Detailed Information Attached		Detailed Information Attached not requested
14. PROCEDURES FOR SAFELY OPENING PACKAGES CONTAINING RADIOACTIVE MATERIALS *(Check One)*		**22. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE MATERIAL IN ANIMALS**	
			Detailed Information Attached
X	Appendix F Procedures Followed; or Rev. 1 Date:11/1/77	**23. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE MATERIAL SPECIFIED IN ITEM 6.b**	
	Equivalent Procedures Attached		Detailed Information Attached Not requested

24. PERSONNEL MONITORING DEVICES

TYPE (Check appropriate box)			SUPPLIER	EXCHANGE FREQUENCY
a. WHOLE BODY	X	FILM	R.S. Landauer, Jr. & Co.	Every 2 weeks
		TLD	(Glenwood, Illinois 60425)	
		OTHER (Specify)		
b. FINGER		FILM		
	X	TLD	R.S. Landauer, Jr., & Co.	Every 2 weeks
		OTHER (Specify)	(Glenwood, Illinois 60425)	
c. WRIST		FILM		
		TLD		
		OTHER (Specify)		

d. OTHER (Specify)

25. FOR PRIVATE PRACTICE APPLICANTS ONLY NOT APPLICABLE

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)

b. APPLICANT OR CERTIFYING OFFICIAL *(Signature)*

William E. Ruse

(1) NAME *(Type of Print)*
William E. Ruse

(1) LICENSE FEE CATEGORY:
170:31 Human Use No. 7B (Renewal)

(2) TITLE
President

(2) LICENSE FEE ENCLOSED: $ 150.00

c. DATE
February 7, 1979

FORM NRC-313M (8-78)

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 Form NRC-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.

APPENDIX C

INSTRUMENTATION

1. Survey meters

a. Manufacturer's name: Picker Serial-159

Manufacturer's model number: 655-186

Number of instruments available: One

Minimum range: 0.01 mr/hr to 0.2 mr/hr

Maximum range: 100. mr/hr to 2,000. mr/hr

b. Manufacturer's name: Tracerlab

Manufacturer's model number: SUIH Serial 1685

Number of instruments available: 1

ranges: _____

Minimum range 0 mr/hr to 0.1 (15) mr/hr Low Level

Maximum range 0 mr/hr to 1500 mr/hr High Level

Item No 9 - Date of application: Feb. 7, 1979

2. Dose calibrator

Manufacturer's name: Capintec

Manufacturer's model number: CRC-5, Serial No. 51113

Number of instruments available: One

3. Diagnostic instruments

Type of Instrument	Manufacturer's Name	Model No.
Dyna 4-15 Gamma Camera Serial No. 224850	Picker	882520
Picker Nulear/Magna-scanner Serial No. 001482	Picker	Cat. 2806-H

4. Other

Item No. 9
Date of application:
Feb. 7, 1979

Item No. 7

1) Meeting frcquency of Isotope Committee:

Quarterly during March, June, September and December

2) Names and specialties of committee members:

Name	Specialty
Austin J. Tidaback, M.D.	Radiology
S. Solaiman, M.D.	Pathology
K. T. Ang, M.D.	Radiology
LeRoy Schroeder, M.D.	Internal Medicine and Endocrinology
William E. Ruse	Hospital Administration

Item No. 7
Date of application:
Feb. 7, 1979

Item No. 8

Item 8 (a) Training and experience

A. J. Tidaback, M.D. - Previous License # 34-06295-02

LeRoy Schroeder, M.D. - Previous License # 34-06295-02

David Lai, M.D. - Previous License # 34-06295-02

K. T. Ang, M.D. - Previous License # 34-06295-03

*Manual Sarmina, M.D. - Previous License # 34-06716-01

*Above named would like to be included under current License # 34-06295-02

Item 8 (b) Radiation Safety Officer

LeRoy Schroeder, M.D. - Previous License # 34-06295-02

Item No. 8
Date of application:
Feb. 7, 1979

CALIBRATION OF SURVEY INSTRUMENTS

Check appropriate items

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

____ 2. Calibration will be performed at two points on each scale. 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% of the calculated or known values for each point checked. Readings within ± 20% are considered acceptable if a calibration chart or graph is prepared and attached to the instrument.

____ 3. Survey instruments will be calibrated

____ a. By the manufacturer

____ b. At the licensee's facility

(i) Calibration source
Manufacturer's name _____
Model no. _____
Activity in millicuries _____
Accuracy _____
Traceability to primary standard _____

(ii) The calibration procedures in Appendix D, Section I will be used.

or

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

X c. By a consultant or outside firm

(i) Name Ohio Disaster Services, Radiological Maintenance and Calibration Facility

(ii) Location Columbus, Ohio

(iii) Procedures and sources

X have been approved by NRC and are on file in License No. 34-12216-02

____ are attached

Item No. 10
Date: Feb. 7, 1979

CALIBRATION OF DOSE CALIBRATOR

A. Sources Used for Linearity Test:

Check as appropriate

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

or

X other* (specify) Supply by Pharmatopes, Inc.

B. Sources Used for Instrument Accuracy and Constancy Tests:

Radionuclide		Activity (mCi)		Accuracy
57 Co		248-8 =240	235	+ - 2%
133 Ba		304-1=303-30=270	278	2.8%
137 Cs		213-4.7=208.3	209	0.3%
other	Co-60	48-1=47	49	4%

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

or

___ Equivalent procedure are attached.

*Must be equivalent to the highest activity used.

Item No. 10
Date: Feb. 7, 1979

ITEM NO. 11

FACILITIES AND EQUIPMENT

The enclosed pages represent a graphic outline of the facilities and equipment for use of radiopharmaceuticals at Blanchard Valley Hospital.

Page 2 represents a diagramatic outline of presently-existing isotope room number 1 and isotope room number 2.

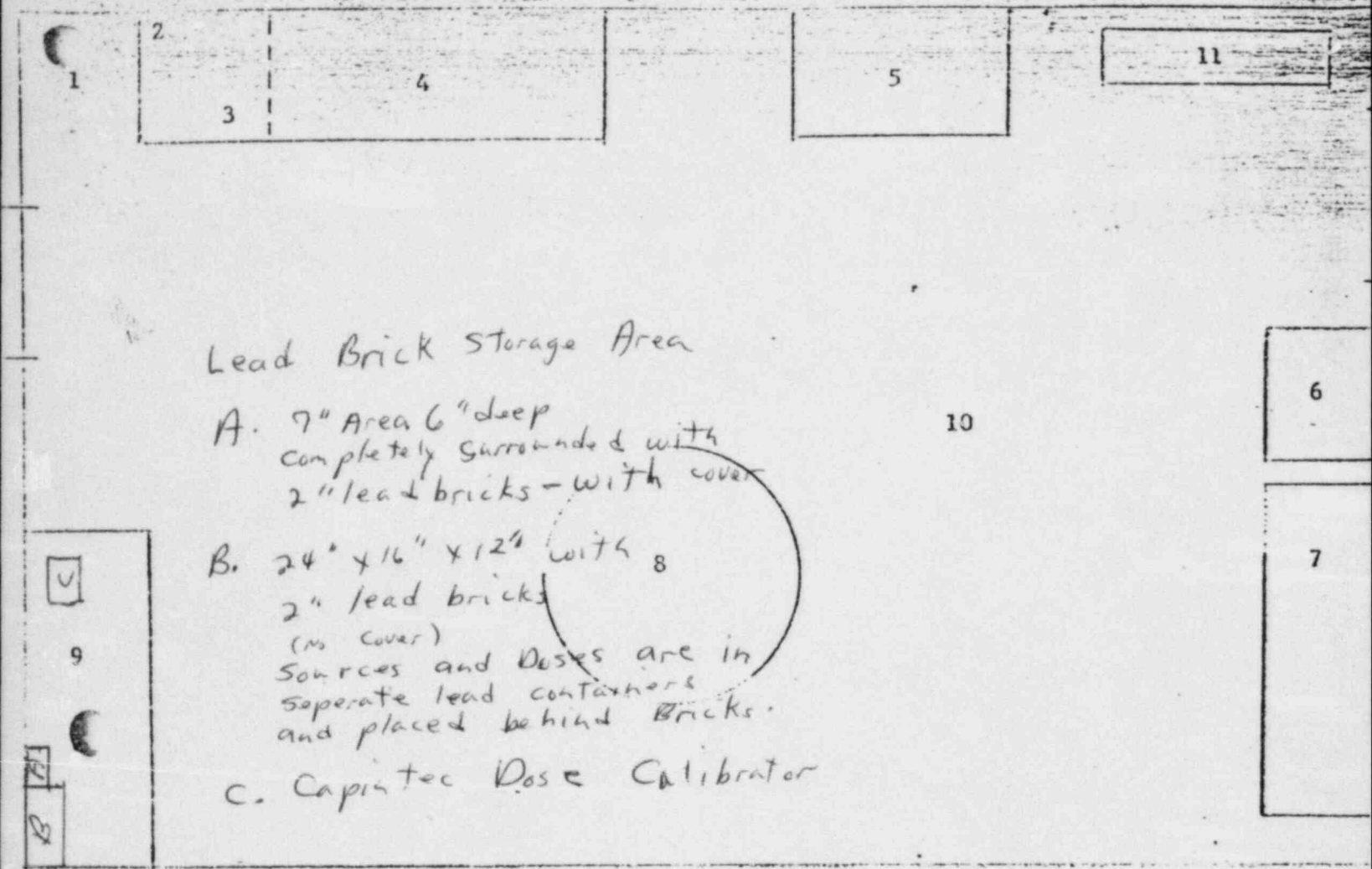
Page 3 represents the new nuclear medicine lab which will be ready for occupancy on or about August 1, 1979. Construction and remodeling for this facility is part of an $11 million expansion program at Blanchard Valley Hospital.

Page 4 describes the lead storage area; dose calibrator; geiger counter and a statement on radiopharmaceuticals and the method of acquisition by the hospital.

Page 5 is a letter from our radiopharmaceutical supplier indicating that that firm has approval to dispose of radioactive wastes dispensed by the firm to the nuclear medicine department at Blanchard Valley Hospital.

Present Facilities ISOTOPE ROOM #1 1/30/79

24 x 15 ft.



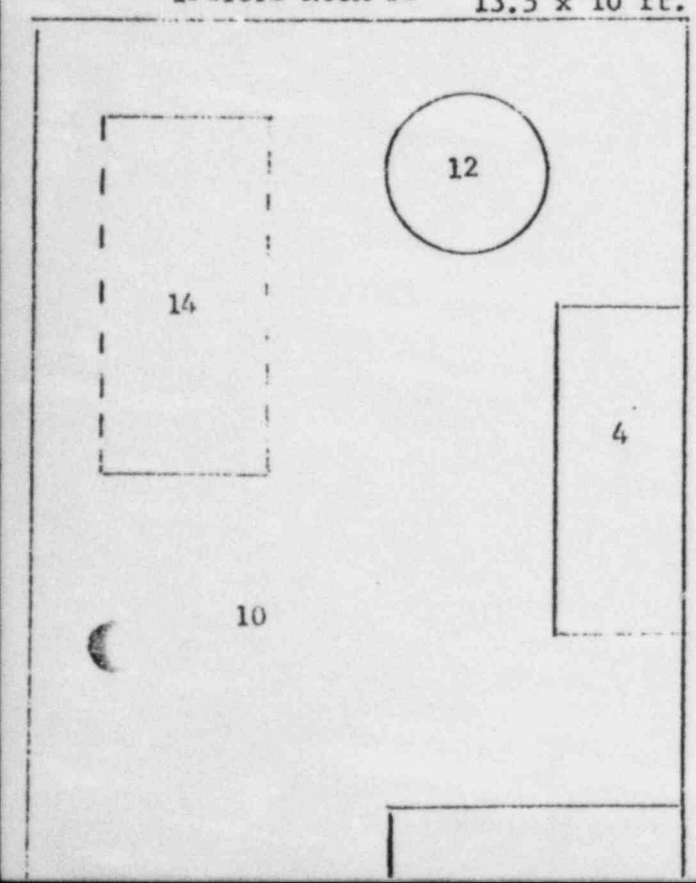
Lead Brick Storage Area

A. 7" Area 6" deep completely surrounded with 2" lead bricks - with cover

B. 24" x 16" x 12" with 2" lead bricks (no cover) Sources and Doses are in seperate lead containers and placed behind Bricks.

C. Capintec Dose Calibrator

ISOTOPE ROOM #2 13.5 x 10 ft.



GUIDE

1. Waste
2. Hot Sink
3. Elbow
4. Work Area
5. File
6. Matrix
7. Dyna Camera Controls
8. Dyna Camera
9. Storage Area
10. Floor
11. Volemotron
12. Magna Scan
13. Scaler
14. Cot

BLANCHARD VALLEY HOSPITAL

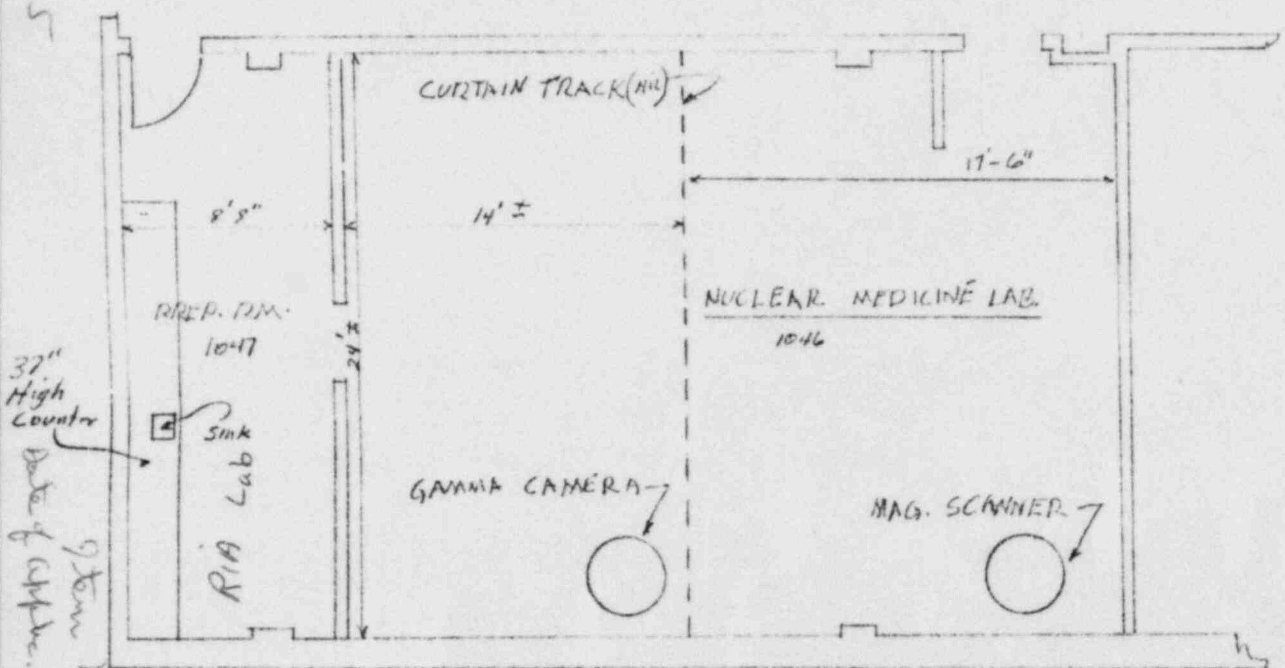
NUCLEAR MEDICINE SURVEY

Item No. 11

Pg 2 of 5

Date of Applic. Feb. 7, 1979

Proposed New Facilities – Tenative Date August 1979



Item No. 11
Date of Compltn. Feb. 7, 1979

BLANCHARD VALLEY HOSPITAL
LABORATORY

Lead Storage Area

1. Area 24" x 16" x 12" with 2" thick lead bricks.

2. Separate area with brick on bottom of enclosed area and brick on top for therapy doses.

Capintec Dose Calibrator

CRC-5 Serial No. 51113. Tested 8/30/78.

Geiger Counter

Picker Survey Meter. Model 655-186. Serial No. 159.
Calibrated 3/8/78 by Larry Grove, Ohio DSA RADEF

Radiopharmaceuticals

These are purcnased in the unit dose-all prepared-from Pharmatopes, Inc., 1944 W. Central, Toledo, Ohio. There is no kit preparation done at B.V.H. We do not have a generator. We do not have a hot Lab. The dose in the syringe is confirmed in our Capintec Dose Calibrator before giving to the patient. Lead Shields are used on the syringes when we inject. The empty syringes and needles are put back into the pig and returned to Pharmatopes, Inc. for storage and disposal.

We use 123-I and 131-I in capsule form reducing the possibility of radioactive material becoming airborne.

Item No. 11
Pg 2 Date of Application Feb. 7, 1979

Pharmatopes, Inc.

July 28, 1978

Dear Colleague:

This is a letter to notify you that Pharmatopes has recieved approval to dispose of radioactive wastes dispensed to you by Pharmatopes.

Please place the used syringe in the original lead container and our delivery personnel will pick them up.

Your cooperation in this mattor is greatly appreciated.

Sincerely yours,

Monty Fu, R.Ph.

MF/rac

Pg 5 of 5

Item No. 11
Date of Application
Feb. 7, 1979

1944 W. CENTRAL • TOLEDO, OHIO 43606 • 419-473-1215

ITEM NO. 12

PERSONNEL TRAINING PROGRAM

VERIFICATION

This is to verify that all personnel who work with or in the vicinity of radioactive materials, including technologists, clerical personnel, nursing personnel, housekeeping personnel and security personnel are and will be properly instructed:

a. Before assuming their duties with or in the vicinity of radioactive materials.

b. During annual refresher training.

c. Whenever there is a significant change in duties, regulations, or the terms of Blanchard Valley Hospital's license.

DESCRIPTION OF TRAINING

All personnel at Blanchard Valley Hospital who work with or in the vicinity of radioactive materials receive academic and educational training through the hospital's inservice training department; through lectures by physicians licensed to handle radioactive material including those physicians whose license is being requested under this application for institutional licensure; through outside courses conducted by state agencies or nationally-recognized professional organizations of nuclear medicine; and through continuing education seminars.

The duration of training is geared toward the specific job function of the employee that does or may come in contact with radioactive material. The hospital's two nuclear medicine technologists have received the following training outside the hospital and in addition to the ongoing nuclear medicine education program of the hospital:

HELENE J. MURPHY NM (ASCP) Registry No. 0014238 and MT (ASCP) Registry No. 028568

- Radiological monitoring course given by the Ohio Disaster Services Agency, August 4 to 25, 1977.

- Review of nuclear medicine given by General Electric - October, 1977.

- Continuing educational seminar in radiodiagnostics given by Squibb - March, 1978.

- Generators and preparing radiopharmaceuticals given by Pharmatopes, Inc. - April, 1978.

RAMESH G. MODI

- Bachelor of Science in chemistry - Detroit Institute of Technology, May, 1972.

- Nuclear medicine technologist - Nuclear Medicine Institute, Cleveland, Ohio, April, 1978.

- Certified nuclear medicine technologist - Nuclear Medical Technology Certification Board, September, 1978.

- American Registry of Radiologic Technologists (NM) - Registration No. 148303, November, 1978.

All personnel who work with or in the vicinity of radioactive materials receive training in the following areas:

- Areas where radioactive material is used or stored.

- Potential hazards associated with radioactive material.

- Radiological safety procedures appropriate to their respective duties.

- Pertinent regulations of the Nuclear Regulatory Commission.

- Rules and regulations of the licensee, Blanchard Valley Hospital.

- Pertinent terms of Blanchard Valley Hospital's license.

- Obligation on the part of all personnel to report unsafe conditions.

- Appropriate response to emergencies or unsafe conditions.

- Each person's right to be informed of their radiation exposure in bioassay results.

Included with this item number 12 are some of the policies and procedures adopted by the hospital in various departments. These policies and procedures constitute a portion of the training program for the respective personnel identified.

Item No. 12
Date of Application 2-7-79

BLANCHARD VALLEY HOSPITAL

NURSING SERVICE POLICY AND PROCEDURE

Subject

Precautionary Safety Regulations and Nursing Care for Patients Receiving Large Doses of Radio-Active Treatment

Policy

To provide quality care and assurance to the patient receiving radio-active treatment and at the same time, enforce the required precautionary regulations to assure protection to other patients and all personnel.

Equipment

1) Radiation sign for door and chart
2) Plastic covering for floor (room and bathroom)
3) Plastic bags to cover door knobs, water faucets, bed control TV control, etc.
4) Chux to cover over bed table, bedside table, etc.
5) Two laundry hampers with plastic bags, one for linen and one for refuse
6) Linens and utensils (disposable, when available)
7) Disposable gloves and shoe covers
8) Gowns
9) Disposable dishes - paper cups
10) Cabinet outside door in corridor for supplies
11) Pocket doximeter, or film badge, obtained from X-ray department
12) Radiation survey meter, obtained from X-ray department
13) Two large plastic containers with lids to be used for contaminated linens and refuse when patient is dismissed.

Item No. 12
Date of application Feb. 7, 1974

Procedure

1) Patient must be in a Private Room.

2) Radiation sign to be posted on door and radiation recorded on chart.

3) No pregnant women shall work with a patient when radiation is involved.

4) The floor of the patient's room, including bathroom, will be covered with heavy plastic.

5) Water faucets, door knobs, TV and bed controls will be covered with plastic bags.

6) Two plastic lined hampers are to be placed in patient's room, one for linen and one for refuse.

7) Disposable equipment is to be used, as available.

8) Necessary nursing care to patient may be performed without restriction, just be brief and efficient.

9) Personnel entering patient's room are to wear gloves and shoe covers. When leaving, place gloves and shoe covers in receptacle inside the room.

10) Nursing personnel are allowed no more than 30 minutes total exposure to patient in any one shift.

11) A pocket doximeter is to be worn by persons caring for patient during each shift and to be read and the results recorded at the termination of each shift.

12) Precautions are to be taken with patient's body eliminations, urine, saliva, perspiration. Instruct patient:
   a. Remain in his room.
   b. Force fluids.
   c. Sit down on commode to void.
   d. Flush commode three (3) times after voiding.
   e. Flush sink well after oral hygiene.

13) If urine specimen is being saved for any reason, all containers should be labelled with radio-active signs and handled with gloves.

14) Limited visitors are permitted. No more than 30 minutes total exposure to patient in one day.

Problems

Radio-active spill or vomitus: Notify physician immediately. Place chux or paper towel over spill or vomitus (wearing gloves). If on

Item 12
Date: 2/7/79

the floor, take up as much as possible and place in receptacle for radio-active waste. Clean area with damp cloth and detergent.

Dismissal

Nursing Service will be responsible when the patient is dismissed for seeing that the room is monitored with radiation survey meter. The floor plastic, refuse and linens will be placed in plastic bags and put into the two plastic cans, sealed and stored for 80 days, or until they are decontaminated. When the room is decontaminated, Housekeeping will be notified to clean and ready the room for the next patient.

William E. Ruse
President

Elizabeth O'Brien, R.N.
Director of Nursing Service

A. J. Tidaback, M.D., F.A.C.R., Radiologist
Radio Isotope Committee

David Lai, M.D. for M. Sarmina, M.D.
Radio Isotope Committee

July 14, 1977

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IV. PROCEDURE (cont)

2. D. Put the lid on the container, seal it with masking tape. Mark radioactive, the date, and what is in the container. Use as many plastic containers as necessary. Leave the containers in the room.
   E. Put more chux down on the floor, over the bedside table, overbed table, using masking tape to hold them in place, wherever necessary.
   F. Put plastic bags over the T.V. control, bed controls, door knobs, water spigots in the bathroom, dark green bags in the hampers. Place a piece of gauze over the mouthpiece of the phone and make the bed.
   G. Dr. Schroeder will probably read the room with the Geiger Counter when you are finished cleaning or the next morning.
   H. If there are any "hot" spots after Dr. Schroeder has read the room, take a cloth saturated with the decontamination soap and water and go over those areas. Mr. Johns should be notified to check the room and remove the containers.
   I. If Room 277 is not to be used again for a radioactive patient remove all the plastic from the walls and floor and put them in the trash container in addition to doing the things mentioned above.

V. CHARTING

Chart on the patient's chart that the room was cleaned according to hospital procedure.

VI. Articles checked with a Geiger Counter:

1. Wastebasket
2. Chair
3. Bed
4. Pillow
5. Nightstand
6. Bed controls
7. T.V. control
8. Overbed table
9. Floor, around bed
10. Window ledge
11. Signal cord, light plate
12. Light switch, in room
13. Door knobs (bathroom)
14. Striker plate (bathroom)
15. Toilet (inside, under ledge)
16. Toilet seat
17. Wash bowl
18. Light switch (bathroom)
19. Shower (faucets, bars, etc.)
20. Linen #1
21. Linen #2
22. Trash #1
23. Trash #2
24. Telephone, after the phone has been checked, double bag it, mark it the same as the other radioactive material.

June 11, 1978

Maxine McMenamin, R.N.

Item 12
Date 2/7/79

#8

BLANCHARD VALLEY HOSPITAL

NURSING SERVICE POLICY AND PROCEDURE MANUAL

CLEANING A ROOM (277) FOLLOWING THE DISCHARGE OF A RADIOACTIVE PATIENT

I. POLICY

It is the policy of the Nursing Service Department of Blanchard Valley Hospital to use the following procedure in cleaning up the room following the discharge of a patient who has had a massive dose of radioactive iodine.

II. PURPOSE

The purpose is to decontaminate the room so that it can be used for a new patient in several days.

III. EQUIPMENT

1. Large plastic containers with lids (at least 4).
2. Large plastic bags.
3. Masking tape.
4. Bottle of decontamination soap (get from Isotope laboratory).
5. Isolation gowns.
6. Shoe covers.
7. Rubber gloves
8. Small plastic bags.

IV. PROCEDURE

1. When the patient is discharged, have the patient take a shower in Room 277. After shower give the patient a gown, then take him or her to Room 275 or 276 to dress.
   Note: The patient's suitcase and anything else that he or she can not take into Room 277 store in the locked closet in the south hall.
2. If Room 277 is to be used again for a radioactive patient, do the following:
   A. Remove all the plastic bags that are on the different items except in the shower stall itself. Remove chux from the table tops and the floors. The several chux in front of the door need not be removed. Place the chux in trash hamper (in room).
   B. Strip linen from the bed and place in linen hamper (in room).
   C. Saturate a soft cleaning cloth with decontamination soap and water. (Take at least one paper cup filled with solution in with you.) Use about $\frac{1}{2}$ water and $\frac{1}{2}$ decontamination soap. Wash off all the things listed on the attached page. DO NOT RINSE. (They are the things that Dr. Schroeder checks with the Geiger Counter when you have finished cleaning the room.)
   D. After washing off all the articles, bring the plastic containers to the door. Put a heavy plastic bag (dark green) in the container. Put either bag (trash or linen) in the container, seal the original plastic bag with masking tape then the outside one with masking tape. Whichever hamper is done first, put your gown, gloves and show covers in the proper hamper.

Item 12
Date 2/7/77

CALCULATIONS

Show line drawing of patients and neighboring rooms on other side of this form. Indicate location of patient and neighboring beds, patient orientation, visitors chair, hallways, doors, and outside walls. Room must be a private one, preferably with two outside walls and patients feet oriented to outside wall. Use G-M (low level) and ion (high level) chamber survey meter to determine radiation levels. Record obtained values on drawing at location of measured readings. Readings should be taken at (1) patients bedside, (2) visitors chair, and (3)mid-bed on all neighboring beds. Query for recently performed nuclear medicine procedures if elevated readings are obtained.

NURSES - limited to 2.0mRems/hr. (2.0 ÷ bedside reading) x 60 min. per hr = maximum minutes of bedside care each (but every) hour.

VISITORS- should be limited to 100mRems/total treatment time. If visitor's chair mr/hr x total treatment time is greater than 100mRems, limit visiting time as (100 ÷ (total treatment time x visitor's chair reading) x 60 min. per hr. = maximum minutes/hour for each hour.

NEIGHBORING PATIENTS - should be limited to 100mRems. Readings taken at mid-bed x total treatment time can usually be limited to less than 100mRems either through distance or shielding. Neighboring patients should be transferred if this is not possible when the total exposure approaches 100mRem.

Item 12
Date 2/7/79

FORMS AEC - 313a
Item 4 - (c)

Instructions to Nursing Personnel Caring for Patients Receiving Radioactive Isotope Therapy

1. Patients receiving radioactive therapy are to be placed in private rooms.
2. Visitors are to be kept out of the room for 24 hours after a patient receives a dose of radioactive isotope except by special permission from the doctor in charge of giving the isotope. The minimum distance a visitor or nurse may sit from the patient will be indicated daily on the nurses instructions sheet on the patient's chart. The visitor should be notified by the nurse.
3. The patient should receive the usual nursing care, such as bathing, feeding, bedpan, medication, etc No nurse should stay in the room with the patient longer than necessary and rotation of personnel serving the patient is advisable. Urine and feces may be disposed of in the usual manner unless special instructions are given to the contrary.
4. No pregnant woman shall work with a patient where any radiation is involved.
5. Rubber gloves are to be worn any time bedpan care is being offered the patient. The purpose of the gloves is to protect the hands from any direct contact with radioactive urine. Before removing gloves wash with soap and water and leave in patient's room on tray provided.
6. All the patient's linen is to be placed in a hamper kept within the patient's room. The radiologist will monitor it daily to determine if it is a radiation hazard.
7. When the patient is discharged, the room will be monitored by the radiologist before another patient is assigned to the bed.
8. Dressings which are contaminated by urine or drainage from the wound should be wrapped in a newspaper and placed on the tray provided.
9. If death occurs, notify the radiologist immediately.
10. If any urine or secretions are spilled, notify the radiologist.
11. If at any time radioactive material gets on bare skin, it should be washed off in running water then scrubbed with soap and water.
12. If any problem arises which you do not understand, call the radiologist.
13. In the event of death notify Dr. A. J. Tidaback or Dr. T. S. Smith at extension 248 and do not remove the body from the room.

Item 12
Date 2/7/79

RADIATION PROTECTION PROCEDURES FOR HANDLING AND DISPOSING OF WASTE MATERIALS CONTAINERS

1. When the treatment of the patient is completed, remove the containers of all waste materials.
   - A. Always use surgical gloves when handling the waste containers
   - B. Keep the container 18 to 24 inches away from body contact.
   - C. Take the container immediately to ~~117 Highland Drive~~ 3rd Floor Connell Building for decay storage

2. Have lab personnel take level reading of the radioactivity in each container and record this reading in the decay process log in the Safety Officers office.

3. Put identification labels on each container and show the date it was put in decay storage.

4. Remove gloves and leave with the container of waste materials in storage.

5. K the containers of radioactive waste materials in decay storage (10) ten lifes or 81 days.

— AFTER 81 DAYS —

6. Measure and record the radiation level and record the readings.

7. If the waste materials are to be burned; burn only one container per day.

8. If the materials will be reused, take the materials to the laundry for cleaning. Otherwise notify Mrs. O'Brien as to final disposition.

9. Record the final disposition - burning or reusing.

10. Keep all outer clothing buttoned and keep exposed skin covered as much as possible.

11. Take a shower using plenty of soap for good lathering.

12. No more than a total of 50 MR/HR will be allowed in Decay Storage at any one time.

SIGNED: Ebenezer H. John

EBENEZER H. JOHN
SAFETY OFFICER, BVH
JUNE 12, 1978

[signature] MD

Item 12
Date 2/7/79

BLANCHARD VALLEY HOSPITAL
ADMINISTRATIVE MANUAL

Original Issue Date		Revision Number & Date December 20, 1976
Chapter X-ray	Section Place in: X-Ray	Subject: Radioactive Spill Emergency Decontamination Procedures

In the case of accidental or other spill of radioactive material with the hospital, it is the responsibility of the senior hospital employee or nurse in the area involved to notify at once the radiation protection officer or radiologist, pathologist or other physician involved in the administration of the radioactive substance. The hospital president should be notified and an appropriate radiation survey meter should be obtained from the Department of Radiology or Pathology.

The following procedures should be instituted immediately:

1. Drop towels or absorbent material on spill.

2. Get out of contaminated clothing. Put it on a large paper for future check. Put on a clean laboratory coat.

3. Scrub hands well with soap or detergent, not highly alkaline and not abrasive. Do not scratch the skin surface.

4. Put on fresh rubber gloves.

5. If the spill is on floor or table, take up as much as possible with blotters or absorbent paper, using forceps to hold the material. Place it immediately into a receptacle for radioactive waste. Clean further with a damp cloth and detergent. Avoid spreading contamination by sloshing water.

6. Monitor contaminated material to determine whether clothing may go to the laundry and mopping material to the incinerator, or whether they must be stored for decay.

Item 12
Date: 2/7/79

Applicability Code: All Departments

Original Issue Date		Revision Number & Date
Chapter	Section	Subject: Radioactive Spill Emergency Decontamination Procedures (Con'd.)

If a larger contamination occurs in the hospital as a result of vomiting or excretion after a large dose of I-131 or a leak or spurt back from an injection of radioactive colloid, so that patient and bedding are involved, the following procedures are indicated:

7. All personnel involved in the clean-up (laboratory workers, nurses, orderlies) put on laboratory coats or coverall protective aprons and rubber gloves.

8. If the patient is ambulatory, get him immediately into a bathtub, have him wash well with soap and water and rinse the whole body and tub.. Check local contaminations and re-wash if necessary. If the patient is not ambulatory, remove all bedding down to and including the rubber sheet, shifting him onto a clean rubber sheet. Give him a careful bed bath, with monitor control of all steps in the procedure.

9. Put all contaminated bedding and patient's clothing into a large paper or into an impervious waterproof container, to be dealt with later.

10. Return patient to bed.

11. Treat contaminated floor and furniture as described in Rule 5.

12. Take contaminated material to the "hot" laboratory, spread on large piece of paper, separate out severely contaminated pices, handling everything with forceps. It may be desirable to try to dispose of

(Continued)

Item 12
Date: 2/7/79

Applicability Code:

Original Issue Date		Revision Number & Date
Chapter	Section	Subject: Radioactive Spill Emergency Decontamination Procedures (Con't.)

12. these immediately rather than store for decay. They can be dropped into a utility sink filled with water and detergent, lifted, stirred and manipulated with sticks, rinsed and rewashed until the remaining activity is low enough to permit sending them to the laundry. (See "Regulations for Radioisotope Laboratory Personnel, Article #14.). If such levels cannot be obtained, they can be dried on disposable lines, with pans and papers to catch the drippings, and stored for decay. Individuals carrying out these procedures should be constantly monitored, and if [illegible] are high the work should be done by a team. At the end of the procedure careful monitoring should be done of everyone involved.

Contanimation Personnel

1. Damage - stop bleeding, wash with water if little bleeding. Encourage bleeding as snake bite.

   Clothes removed.
   Hands - fingernails hold radiation. Scrub well.
   Shoes - tape, wire brush, decay, burn.

2. Deconaminate with water and soap for lmr/hr. Allow rest to decay.

Any further instructions necessary for proper decontamination and cleansing of the area will be given by the radiation protection officer or physician administering isotope.

If necessary, further assistance may be secured from the USNRC regional coordinating offices for radiological emergency assistance, tele. no. (312) 858-2660, address: 799 Roosevelt Road, Glenn Ellyn, Illinois, 60137.

A. J. Tidaback, M.D.
Chief Radiologist

Applicability Code:

Item 12
Date 2/7/79

BLANCHARD VALLEY HOSPITAL

ADMINISTRATIVE MANUAL

Original Issue Date February 6, 1979		Revision Number & Date
Chapter Adminitration	Section Place in: LAB-7	Subject: Procedures for Ordering and Receiving Radioactive Material

The purpose of this memorandum is to set forth procedures for ordering and receiving radioactive materials. The following procedures should be followed:

1) The chief nuclear medicine technologist (Helene Murphy) will place all orders for radioactive material and will ensure that the requested materials and quantities are authorized by the license of the hospital and that possession limits are not exceeded. In Ms. Murphy's absence Mr. Modi will be responsible for following the requirements of this paragraph.

2) During normal working hours carriers will be instructed to deliver radioactive packages directly to the nuclear medicine department.

3) During off duty hours carriers will be instructed to deliver radioactive packages to the lab technologist on duty in accordance with the memorandum which is attached to this policy.

4) Occasionally during off duty hours, particularly on weekends, radioactive materials arrive through the mail. In those cases the information/PBX officer on duty will deliver radioactive packages to the lab technologist on duty in accordance with the procedures outlined in the attached memorandum. It is noted that the lab is staffed on a 24-hour-per-day basis, seven days per week. It is also noted that the department of nuclear medicine is a division of the laboratory.

Should you have any questions in reference to this policy and procedure please contact the undersigned immediately.

Sincerely,

William E. Ruse
President

Item No. 13
Date: Feb 7, 1979

Applicability Code: Nuclear Medicine; Department of Laboratories; Radiology

M E M O R A N D U M

To: Laboratory Personnel and Information/PBX Personnel

Re: Receipt of Packages Containing Radioactive Material

Packages containing radioactive material are clearly marked with identifying stickers. Any packages containing radioactive material that arrive between the hours of 4:30 p.m. and 7 a.m. which are delivered via carriers other than the postal service shall be signed for by the laboratory technologist on duty. Packages arriving through the mails on weekend should be signed for by the Information/PBX officer on duty. When such packages have been received they will be taken directly to the nuclear medicine department. Lab technologists on duty will unlock the door, place the package in the area previously designated by the hospital and relock the door.

If the package is wet or appears to be damaged, immediately contact the hospital radiation safety officer, Dr. LeRoy Schroeder. Ask the carrier to remain at the hospital until it can be determined that neither he nor the delivery vehicle is contaminated.

Should you have any questions in reference to this memorandum, please contact the undersigned immediately.

Sincerely,

William E. Ruse

William E. Ruse
President

Radiation Safety Officer: Dr. Leroy Schroeder
Office Phone: 424-0380 or Ext. 325
Home Phone: 422-2670

p.s. Laboratory or nuclear medicine personnel receiving radioactive material shall complete the attached form labeled "Radioactive Shipment Receipt Report".

s.sp.

February 6, 1979

Item No. 13
Date: Feb. 7, 1979

RADIOACTIVE SHIPMENT RECEIPT REPORT

1. P.O.# _____ SURVEY DATE _____ TIME _____

SURVEYOR _____

2. CONDITION OF PACKAGE:

_____ O.K. _____ PUNCTURED _____ STATUS _____ WET

_____ CRUSHED _____ OTHER _____

3. RADIATION UNITS OF LABEL: _____ UNITS (mR/hr)

4. MEMEASURED RADIATION LEVELS: a. Package surface _____ mR/hr

b. 3' from surface _____ mR/hr

5. DO PACKING SLIP AND VIAL CONTENTS AGREE?

a. Radionuclide _____ yes _____ no difference _____

b. Amount _____ yes _____ no difference _____

c. Chem Form _____ yes _____ no difference _____

6. WIPE RESULTS FROM: a. Outer _____ CPM = _____ DPM
eff = ( )

b. Final source container _____ CPM = _____ DPM
eff=( )

8. SURVEY RESULTS OF PACKING MATERIAL AND CARTONS _____ mR/hr, CPM

9. DISPOSITION OF PACKAGE AFTER INSPECTION _____

10. IF NRC/CARRIER NOTIFICATION REQUIRED, GIVE TIME, DATE AND PERSONS NOTIFIED.

Item No. 13
Date: Feb. 7, 1979

APPENDIX J

WASTE DISPOSAL PROCEDURES

1. Liquid Waste will be disposed of

Check as appropriate

X By commercial waste disposal service (See also No. 4 below)

X In the sanitary sewer system in accordance with Section 20.303 of 10 CFR Part 20.

____ 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 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 disposed of as normal trash. (Note: this method of disposal may not be practical for generators containing long-lived radioactive contaminants)

X Disposed of by commercial waste disposal service (See also No. 4 below)

____ Other (specify): _____

_____

3. Other Solid Waste will be:

(Check as appropriate)

X Held for decay until radiation levels as measured 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.

Item No. 18
Date: Feb. 7, 1979

X Disposed of by commerical waste disposal service (See also No. 4 below)

____ Other (Specify): _____

4. The commerical waste disposal service used will be: Pharmatopes, Inc. - 2208 W. Central - Toledo, Ohio 43606
(Name) (City, State)

NRC/Agreement State License No. 34-16654-01 MD

Pharmatopes are licensed pick up unused doses and residue from the hospital and will be commercially disposed by Nuclear Engineering Company.

Item No. 18
Date: Feb. 7, 1979

Item No. 20

Therapeutic use of sealed sources

Sealed sources are not used at Blanchard Valley Hospital. Please note under Item No. 6 a that the hospital is not requesting license authorization for 10 CFR 35.100, Schedule A, Group VI radioactive material.

Item No. 20
Date: Feb. 7, 1979

Item No. 21

Procedures and Precautions for use of Radioactive Gases

The hospital does not use nor is this license requesting authority to use Radioactive Gases.

Item No. 22

Procedures and Precautions for use of Radioactive Material in Animals

The hospital does not use nor is this license requesting authority to use Radioactive Material in animals.

Item No. 22
Date: Feb. 7, 1979

Item No. 23

Procedures and Precautions for use of Radioactive Material Specified in Item 6.b

The hospital has not requested authority to use material under Item 6.b

Item No. 23
Date: Feb. 7, 1979