NRC FORM 313M (9-81) 10 CFR 35	U.S. NUCLEAR REGULATORY COMMISSION APPLICATION FOR MATERIALS LICENSE -- MEDICAL	Approved by OMB 3150-0041 Expires 9-30-86

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

Albion Community Hospital
809 West Erie Street
Albion, MI 49224

TELEPHONE NO.: AREA CODE ( ) _____ _____

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

30 - 02170

2. PERSON TO CONTACT REGARDING THIS APPLICATION

Shirley Wood, R.T.

TELEPHONE NO.: AREA CODE (517) 629 2191

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

a. ☐ NEW LICENSE
b. ☐ AMENDMENT TO LICENSE NO. _____
c. ☒ RENEWAL OF LICENSE NO. 21-13987-01

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

John W. McGee, 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.)*

John W. McGee, 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		
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		
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		

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.	X	200 MCI

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

FEE EXEMPT
AM 170.11(a)(4)

LOB
Remitter
Check No.
Amount
Fee Category
Type of Fee
Date Check Rec'd.
Date Completed
By:

8707220363 870318
REG3 LIC30
21-13987-01 PDR

INFORMATION REQUIRED FOR ITEMS 7 THROUGH 23

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

7. MEDICAL ISOTOPES COMMITTEE		**15. GENERAL RULES FOR THE SAFE USE OF RADIOACTIVE MATERIAL** *(Check One)*	
X	Names and Specialties Attached; and **Attachment #7A**		Appendix G Rules Followed; or
	Duties as in Appendix B; or *(Check One)*	X	Equivalent Rules Attached **Attachment #15**
X	Equivalent Duties Attached **Attachment #7B**	**16. EMERGENCY PROCEDURES** *(Check One)*	
8. TRAINING AND EXPERIENCE No change in user.			Appendix H Procedures Followed; or
	Supplements A & B Attached for Each Individual User; and	X	Equivalent Procedures Attached **Attachment #16**
	Supplement A Attached for RSO.	**17. AREA SURVEY PROCEDURES** *(Check One)*	
9. INSTRUMENTATION *(Check One)*			Appendix I Procedures Followed; or
	Appendix C Form Attached; or	X	Equivalent Procedures Attached **Attachment #17**
X	List by Name and Model Number **Attachment #9**	**18. WASTE DISPOSAL** *(Check One)*	
10. CALIBRATION OF INSTRUMENTS			Appendix J Form Attached; or
	Appendix D Procedures Followed for Survey Instruments; or *(Check One)*	X	Equivalent Information Attached **Attachment #18**
	Equivalent Procedures Attached; and	**19. THERAPEUTIC USE OF RADIOPHARMACEUTICALS** *(Check One)*	
	Appendix D Procedures Followed for Dose Calibrator; or *(Check One)*		Appendix K Procedures Followed; or
X	Equivalent Procedures Attached **Attachment #10**		Equivalent Procedures Attached
11. FACILITIES AND EQUIPMENT		**20. THERAPEUTIC USE OF SEALED SOURCES**	
X	Description and Diagram Attached **Attachment #11**		Detailed Information Attached; and
12. PERSONNEL TRAINING PROGRAM			Appendix L Procedures Followed; or *(Check One)*
X	Description of Training Attached **Attachment #12**		Equivalent Procedures Attached
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 **Attachment #13**	X	Detailed Information Attached Attachment #21
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
	Appendix F Procedures Followed; or	**23. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE MATERIAL SPECIFIED IN ITEM 6.b**	
X	Equivalent Procedures Attached **Attachment #14**		Detailed Information Attached

24. PERSONNEL MONITORING DEVICES

TYPE (Check appropriate box)			SUPPLIER	EXCHANGE FREQUENCY
a. WHOLE BODY	X	FILM	R. S. Landaurer Jr. & Co.	Monthly
		TLD		
		OTHER (Specify)		
b. FINGER		FILM		
	X	TLD	R. S . Landaurer Jr. & Co	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: Byproduct material

(2) LICENSE FEE ENCLOSED: $ 580.00

b. APPLICANT OR CERTIFYING OFFICIAL *(Signature)* Richard C Hoeth

(1) NAME *(Type or Print)*: Richard C. Hoeth

(2) TITLE: President

c. DATE: 10/29/85

PRIVACY ACT STATEMENT

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

1. **AUTHORITY** Sections 81 and 161(b) of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2111 and 2201(b)).

2. **PRINCIPAL PURPOSE(S)** The information is evaluated by the NRC staff pursuant to the criteria set forth in 10 CFR Parts 30-36 to determine whether the application meets the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations, for the issuance of a radioactive material license or amendment thereof.

3. **ROUTINE USES** The information may be used: (a) to provide records to State health departments for their information and use; and (b) to provide information to Federal, State, and local health officials and other persons in the event of incident or exposure, for their information, investigation, and protection of the public health and safety. The information may also be disclosed to appropriate Federal, State, and local agencies in the event that the information indicates a violation or potential violation of law and in the course of an administrative or judicial proceeding. In addition, this information may be transferred to an appropriate Federal, State, or local agency to the extent relevant and necessary for a NRC decision or to an appropriate Federal agency to the extent relevant and necessary for that agency's decision about you. A copy of the license issued will routinely be placed in the NRC's Public Document Room, 1717 H Street, N.W., Washington, D.C.

4. **WHETHER DISCLOSURE IS MANDATORY OR VOLUNTARY AND EFFECT ON INDIVIDUAL OF NOT PROVIDING INFORMATION** Disclosure of the requested information is voluntary. If the requested information is not furnished, however, the application for radioactive material license, or amendment thereof, will not be processed.

5. **SYSTEM MANAGER(S) AND ADDRESS** Director, Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

ALBION COMMUNITY HOSPITAL RADIOLOGY POLICY/PROCEDURE

MEDICAL ISOTOPES COMMITTEE MEMBERSHIP

NAME	SPECIALIST
John W. McGee, M. D., A. B. R.	Radiologist
Gregory L. Burhans, M. D.	Pathologist
Mary V. Daly, M.D.	Internal Medicine
Richard C. Hoeth	President (Albion Community Hospital)
Shirley J. Wood	Registered Technologist (Director of Nuclear Medicine)

Consultant to Committee

Lincoln B. Hubbard, A.B.R.	Certified Physicist

Item #7
10/22/86

MEDICAL ISOTOPES COMMITTEE

Section 35.11(b), 10CFR35, requires the applicant for an institutional license to appoint a medical isotopes committee to evaluate all proposals for research, diagnostic, and therapeutic use of radioisotopes within the institution. The medical isotopes committee shall consist of at least three members. This membership should include physicians expert in internal medicine or hematology (or pathology), therapeutic radiology, and a person experienced in assay of radioisotopes and protection against ionizing radiation.

A. Committee Authority

The Committee is established by authority of the Hospital Administrator (or Hospital Director) as the administrative body responsible for the safe use of radioisotopes within the institution.

B. Committee Responsibilities

1. Review and grant permission for, or disapprove, the use of byproduct material within the institution from the standpoint of radiological health and safety of patients or working personnel and other factors that the committee may wish to establish for medical uses of byproduct materials prior to submission of an application to the Commission for licensing.

2. Prescribe special conditions that will be required during a proposed use of byproduct material such as requirements for bioassays and physical examinations of users, minimum level of training and experience of user.

3. Receive the review records and reports from the radiological safety officer or other individuals delegated responsibility for health safety practices in the institution.

4. Recommend remedial action to correct safety infractions.

5. Formulate and review the institutional training programs for the safe use of radioisotopes.

6. Maintain written record of actions taken by the committee.

7. Inform the Commission of any changes in committee membership.

C. Committee Administrative Procedures

The scope of administrative procedures will depend primarily on the radioisotope program to be undertaken. If the program is initiated on a modest scale, revision of procedures and organizations may become appropriate as the program grows over a period of time. The procedures should include:

1. A meeting schedule to review safety aspects of present programs and to consider special cases or problems. The committee shall meet quarterly.

2. Record keeping procedures for committee meetings, actions, recommendations, and decisions.

C. Committee Administrative Procedures (Cont.)

3. A program for the preparation and dissemination of information pertaining to radiation safety.

4. The delegation of responsibility to a specific individual for the conduct of the day-to-day radiation safety program, including appropriate surveys and maintenance of records.

5. Maintenance of written records of receipts, transfers, and disposal of all radioactive isotopes in the institution and maintenance of an inventory of the total quantity of each radioisotope possessed at the institution.

6. Provisions for initiating corrective actions as necessary to assure radiation safety.

Committee Members:

Mr. Richard C. Hoeth - President
Dr. John W. McGee - Radiologist -(Radiation Safety Officer)
Dr. Mary V. Daly - Internal Medicine
Dr. G. L. Burhans - Pathologist
Shirley Wood - Registered Technologist (Director)

Consultants:

Mr. Lincoln B. Hubbard - Certified Physicist

ALBION COMMUNITY HOSPITAL
809 West Erie Street • Albion, Michigan 49224-9978 • (517) 629-2191

INSTRUMENTATION

ITEM	BRAND NAME	MODEL NUMBER
GM Survey Meter	Picker	800
Dose Calibrator	Capintex	CRC-16
Camera	Picker Dyna-Camera	Series 5

Item #9
10/22/86

ALBION COMMUNITY HOSPITAL RADIOLOGY POLICY/PROCEDURE

NUCLEAR MEDICINE

CALIBRATION

I. Statement of Purpose

To establish Quality Assurance and a Nuclear Regulatory Requirement.

II. Policy and Procedure

DOSE CALIBRATOR

a. Calibrate on each day prior to first use with the sealed sources of CO-57 and CS-137.
b. Record findings on form indicated.
c. Calibrator shall have yearly calibration by a service specifically licensed by the NRC or agreement state.

SURVEY METER

a. Set HV before using.
b. Check batteries and replace yearly.
c. Meter shall have yearly calibration by an authorized service.

Item #10
10/22/86

ALBION COMMUNITY HOSPITAL RADIOLOGY POLICY/PROCEDURE

INSTRUMENT LINEARITY TEST

1. Order 20 mCi Tc-99m from Pharmatopes. Inform them this is for Linarity Test. Request their time of elution.
2. Assay Tc-99m vial in dose calibrator and subtract background level- net activity in millicuries.
3. Repeat step 1 at time intervals of 6,24,30 and 48 hours after the initial assay.
4. Using the 30 hour activity measurement as a starting point, calculate the predicted activity at 0,6,24, and 48 hours using the following table:

ASSAY TIME	CORRECTION FACTOR
0	31.633
6	15.853
24	1.995
30	1
48	0.126

5. Plot the measured net activity (for each time interval) versus the calculated activity (for the same time intervals).
6. The activities plotted should be within plus or minus 5 percent of the calculated activity if the instrument is linear and functioning properly. Errors greater than plus or minus 5 percent indicates the need for repairs or adjustment of the instrument.

**This must be done on a quartly basis and record in log.

REVISED: 9/86

Item #10
10/22/86

SYNCOR
SYNCOR INTERNATIONAL CORPORATION
MEDICAL SERVICES GROUP
5347 WEST 86TH STREET
INDIANAPOLIS, IN 46268
(317) 872-3301

SURVEY METER CALIBRATION REPORT

INSTITUTION: ALBION HOSPITAL
ALBION

METER: PICKER 800
SERIAL #: 128

SCALE RANGE	DISTANCE INCHES	FILTRATION	CALCULATED MR/HR	MEASURED MR/HR	VARIANCE %
10	42.4	0.0250	1.000	1.100	10.0
10	42.4	0.1000	4.000	3.800	-5.0
100	42.4	0.2500	10.000	11.000	10.0
100	42.4	0.0000	40.000	42.000	5.0

CALIBRATION WAS PERFORMED WITH A TECH/OPS MODEL 773 CESIUM-137
SURVEY INSTRUMENT CALIBRATOR
SERIAL # 138 ... 154 MILLICURIES ON 9/27/83 ..144.99 MCI ON 5/12/86

CALIBRATED BY: Robert T. Angus, J

DATE: 5/12/86

NRC LICENSE NO. 13-19229-01 MD

CALIBRATION DUE: 5/12/87

Item #10
10/22/86

CAPINTEC INSTRUMENTS, INC.

REPORT OF CALIBRATION

Radioisotope Dose Calibrator

Model: CRC- 16

Serial Numbers

Set: 16154

Chamber: Y3277

Meter: 350785

Power Supply Tested ✓

Iometer Tested ✓

Bias Battery Tested ✓

Calibration

Calibration standards used for Instrument Calibration.:

Radionuclide	Activity	Accuracy	Instrument Reading
Co-57	2.898 µCi	±1.9 %	set*
Co-60	144.8 µCi	±1.8 %	set*
Cs-137	760.4 µCi	±2.3 %	768. µCi
Ra-226	100.6 µCi	±0.5 %	100.0 µCi

* Co-57 and Co-60 standards are used to normalize the instrument response.

9-15-86

Item #10
10/22/86

ALBION COMMUNITY HOSPITAL
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Item #11
10/22/86

ALBION COMMUNITY HOSPITAL
809 West Erie Street • Albion, Michigan 49224-9978 • (517) 629-2191

PERSONNEL TRAINING PROGRAM

Personnel continuing education will be reviewed annually by the Radiation Safety Officer or the physicist.

Item #12
10/22/86

ALBION COMMUNITY HOSPITAL RADIOLOGY POLICY/PROCEDURE

ORDERING RADIOPHARMACEUTICALS

I. Policy and procedure.

a. Telephone Syncor, Inc. (616) 245-8781. The following information must be given to the Nuclear Pharmacist.

1. Name of Hospital.

2. Name of radiopharmaceutical and type of scan.

3. Activity amount desired. (Children under 12 must have weight)

4. Calibration time (Injecting time).

5. When Nuclear Pharmacist is not available, give phone number which you can be reached and Pharmacist will return call. This procedure prevails after closing hours.

b. All radioactive material will be ordered by those authorized to inject radiopharmaceuticals, by John W. McGee, M.D. or under their direction.

Item #13
10/22/86

ALBION COMMUNITY HOSPITAL RADIOLOGY POLICY/PROCEDURE

PROCEDURE FOR DELIVERIES FROM SYNCOR BY COURIER

1. Courier will deliver locked suitcase to the Nuclear Med Department. It will be placed in area indicated by a sign.

2. The Nuclear Tech will check the seal and address on case before Courier departs.

3. The Courier will deliver only to Nuclear Medicine Department.

DELIVERIES DURING OFF-DUTY HOURS

1. Nuclear Medicine Technologist will inform switchboard operator and Security Guard of a delivery.

2. Syncor Courier will use the emergency entrance, go to the switchboard operator, identify himself, operator will call the Security Guard and the Nuclear Med. Technologist.

3. The Security Guard will unlock Nuclear Med area for Courier.

4. Syncor Courier will place the sealed suitcase in area indicated by a sign.

5. Security Guard will lock Nuclear Med. area.

6. The Security Guard will not accept or handle any shipments.

Item #13
10/22/86

ALBION COMMUNITY HOSPITAL RADIOLOGY POLICY/PROCEDURE

PROCEDURE FOR OPENING RADIOACTIVE MATERIAL

I. Statement of Purpose

To establish the least amount of exposure to radiation for employees handling radioactive materials. NRC Requirement.

II. Policy and Procedure

1. Must wear film badges and rubber gloves before opening radioactive packages.

2. Locked Case
   a. Syncor Courier will place case in assigned area.
   b. Monitor case with survey meter at 3 feet. If readings exceed level of 2MR/Hr. go to decontamination procedure. Call Radiation office and Syncor.
   c. Monitor at surface, if readings exceed 50MR/Hr., go to decontamination procedure.

3. Lead Containers.
   a. Monitor case with survey meter at 3 feet. If readings exceed level of 2MR/Hr., go to decontamination procedure. Call radiation office and Syncor.
   b. Record readings on Monitor Package Sheet

Item #14
10/22/86

ALBION COMMUNITY HOSPITAL RADIOLOGY POLICY/PROCEDURE

NUCLEAR MEDICINE

RADIATION SAFETY FOR TECHNOLOGIST

I. Statement of Purpose

To establish the least amount of exposure to radiation for employees handling radioactive material. NRC REQUIREMENT.

II. Policy and Procedure

a. DO NOT eat, drink, or smoke in Nuclear Medicine Room.
b. Wear lab coat over uniform.
c. Wear badges (Film) see Radiation Badge Policy.
d. Wear disposable gloves when handling radioactive material.
e. Use Lead syringe shield covers.
f. Monitor as described in Personnel Monitoring Policy
g. Deliveries will remain in lead container in delivery case or behind lead shielded area until use.
h. Upon use the syringes will be returned to lead containers and containers will be placed in cases in pick-up area.

Item #15
10/22/86

ALBION COMMUNITY HOSPITAL RADIOLOGY POLICY/PROCEDURE

NUCLEAR MEDICINE

HOUSEKEEPING

I. Statement of Purpose

To establish guideline for cleaning the area.

II. Policy and Procedure

a. Empty, wash and reline wastebaskets - Daily.
b. Dustmop floors.
c. Wet mop floors with germicide.
d. Leave room.
e. List of DO NOTS:
   1. Dust anything but the floors.
   2. Damp wipe anything but the floors.
   3. Touch or move any equipment.
f. There is no radioactive material stored in the room except shielded containers behind lead shielded area.

Item #15
10/22/86

ALBION COMMUNITY HOSPITAL RADIOLOGY POLICY/PROCEDURE

PROCEDURE FOR WIPE TEST FOR RADIONUCLIDE
CS 137 & CO-57

I. Statement of Purpose

The wipe test is for personal safety and to prevent the possibility of contamination. Also a Nuclear Regulatory Commission requirement.

II. Policy and Procedure

a. Wipe all external surfaces of the source, including the source seal area with a Rad-Wipe Smear provided by Syncor.
b. Fill in the information required on the Rad-Wipe Smear sheet.
c. Place in an envelope and return to Syncor.
d. Syncor will measure the total activity on a calibrated gamma scintillation counter and return the Wipe Smear with this information recorded.
e. Attach below for our record.
f. NRC requires that this be done twice yearly.

Item #15
10/22/86

ALBION COMMUNITY HOSPITAL RADIOLOGY POLICY/PROCEDURE

NUCLEAR MEDICINE

PERSONNEL MONITORING

I. Policy and Procedure

a. Film badge (collar and waist level) monitoring shall be worn by all personnel in controlled areas.
b. Wrist or finger badges shall be worn by all personnel directly involved in the administration of patient doses.
c. Personnel involved directly in administration of patient doses shall monitor their hands after these activities. If significant levels of radiation are detected on the hands, i.e. greater than 0.2 MR per hour, proper decontamination procedures shall be followed as outlined in decontamination procedure.

Item #15
10/22/86

ALBION COMMUNITY HOSPITAL RADIOLOGY POLICY/PROCEDURE

NUCLEAR MEDICINE

DECONTAMINATION - PERSONNEL

I. Policy and Procedure

a. Personnel who have been contaminated by radioactive material must be rapidly decontaminated, because of the obvious dangers from the radiation to the individual. Decontamination is necessary immediately for two reasons. The first is to prevent the possible transfer of the radioactivity to internal organs, either by ingestion or by breaks in the skin. The second is to prevent spread of the contamination to other personnel.

b. Prompt decontamination is necessary if there is a break in the skin, since radiation in this case could be immediately absorbed into the body. Bleeding should be encouraged while rinsing the skin with water.

c. Immediately remove all contaminated clothing. (That is why Lab Coats are worn in the Nuclear Medicine Department).

d. Use survey meter to check radiation. If skin is contaminated, wash with soap and water and survey again. If radiation is present, use special decontamination soap and survey again. When survey matter shows greater than 2 MR/per hour, contact RSO (Radiation Safety Officer).

e. If any materials and clothing that are contaminated is higher than the accepted level (greater than 0.2 MR per hour), material will be labelled and transferred to an isolated area.

WORK AREA AND EQUIPMENT

a. Use absorbent material in all areas, where possible. This will enable the majority of any spill to be contained and removed easily.

b. MINOR SPILLS
   1. Prevent the spread of contamination.
   2. Decontaminate
   3. Washing technique - Utilize wipes and read with GM meter.
      a. Continue washing technique until there is no removable contaminate.
   4. Survey hands and clothing for contamination.

c. MAJOR SPILLS
   1. Clear the area.
   2. Prevent the spread. Cover the spill with absorbent pads.
   3. Close the room. Lock the room to prevent entry.
   4. Notify Radiation Officer. Dr. John W. McGee. Office ex. 260
      Home 531-4841
      Office 629-5311

Item #16
10/22/86

ALBION COMMUNITY HOSPITAL RADIOLOGY POLICY/PROCEDURE

NUCLEAR MEDICINE

I. Policy and Procedure

a. Area surveys shall be performed in the Nuclear Medicine Department on a regular basis. The results shall be logged on Survey Form.

1. Counter top/preparation area - Daily.
2. Injection site - Daily.
3. Complete Area - Weekly.

Item #17
10/22/86

ALBION COMMUNITY HOSPITAL RADILOGY POLICY/PROCEDURE

DISPOSAL OF RADIOACTIVE WASTES

I. Policy and Procedure

a. Syncor has been licensed by the Nuclear Regulatory Commission to pick up those material which after use represent radioactive waste. All supplies order from Syncor may be returned, as following:
   1. Return the needle cover to the needle and place in lead container.
   2. Place the unit dose shield in the caseprovided for return to the pharmacy.
   3. Contaminated gloves, filter, mouth pieces shall be placed in a plastic bag and placed in case.

b. The area survey will be performed with a GM survey meter. If possible contamination is present, Wipe Test will be carried out.
   WIPE TEST
   1. Size of area wiped will be at least 100 cm square (10x10).
   2. Wipe will be checked with GM survey meter in low background area.

Item #18
10/22/86

ALBION COMMUNITY HOSPITAL
809 West Erie Street • Albion, Michigan 49224-9978 • (517) 629-2191

Information in Support of Xe-133 Use Appendix M (Rev. January 1979)

a. Quantities to be used:
   (1) Patient information
      (a) 10 studies per week
      (b) 10 milliCuries average activity per study
   (2) 200 milliCurie possession limit

b. Use and Storage Areas:
   (1) Xe-133 will be stored in the camera room and used (administered, imaged, trapped, and exhausted) in the camera room (see attached, facility diagram).
   (2) Ventilation (see attached facility diagram)
   (3) In case of fan shutdown, Xe-133 studies will not be performed.

c. Procedures for Routine Use:
   (1) Xe-133 will be stored in camera room in the lead shipping tubes behind lead bricks. Indivicual (doses) will be assayed in our "dose" calibrator and administered using NRP-186 Gas CALIDOSE Dispenser-NEN (see the attached brochure).
   (2) Xe-133 will be administered to the patient using the Pulmonex Xenon System-Atomic Products (see the attached brochure). Xe-133 will be collected using the Pulmonex System-Atomic Products (see the attached brochure).
   (3) Nose clamps will be used to reduce leakage.

d. Emergency Procedures:

   Notify persons in the room that a release has occurred.
   All persons should vacate the room at once.
   Close the door to room and prevent entry.
   Notify the Radiation Safety Officer immediately.
   After 10 minutes* re-enter the room. Survey with G.M. Survey meter to assure that exposure rates have returned to "normal" levels.

e. In room. (restricted area)
   240 cfm of exhaust from room allows releases of 163 mCi/week far more than can be realistically expected with our usage.

f. At exhaust (unrestricted area)
   1600 cfm of total exhaust limits releases to 1375 mCi again far more than can be expected with our usage.

* 5 turn-overs of room air

FOOTNOTES:

(ii) Effluent from the trap will be collected monthly and counted on the gamma camera (collimator removed) with window set for Xe-133. The traps will be removed from service if the activity exceeds 1x10 uCi/ml.

Item #21
10/22/86

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FOOTNOTES: (Cont.)

(iii) Saturated filters will be sealed per manufacturer instructions to prevent leakage and will be stored for decay in shielded storage area.

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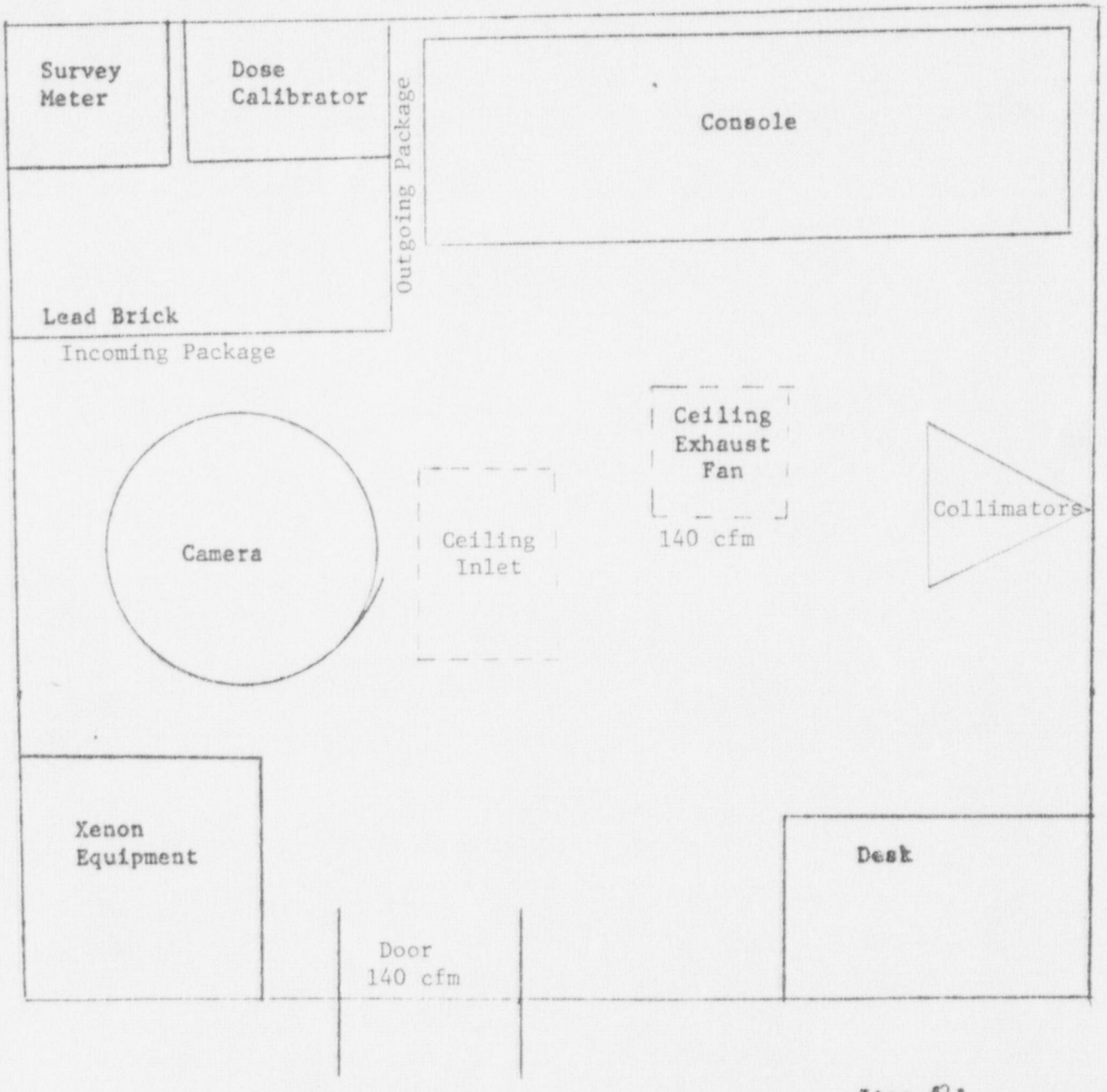

Item #21
10/22/86

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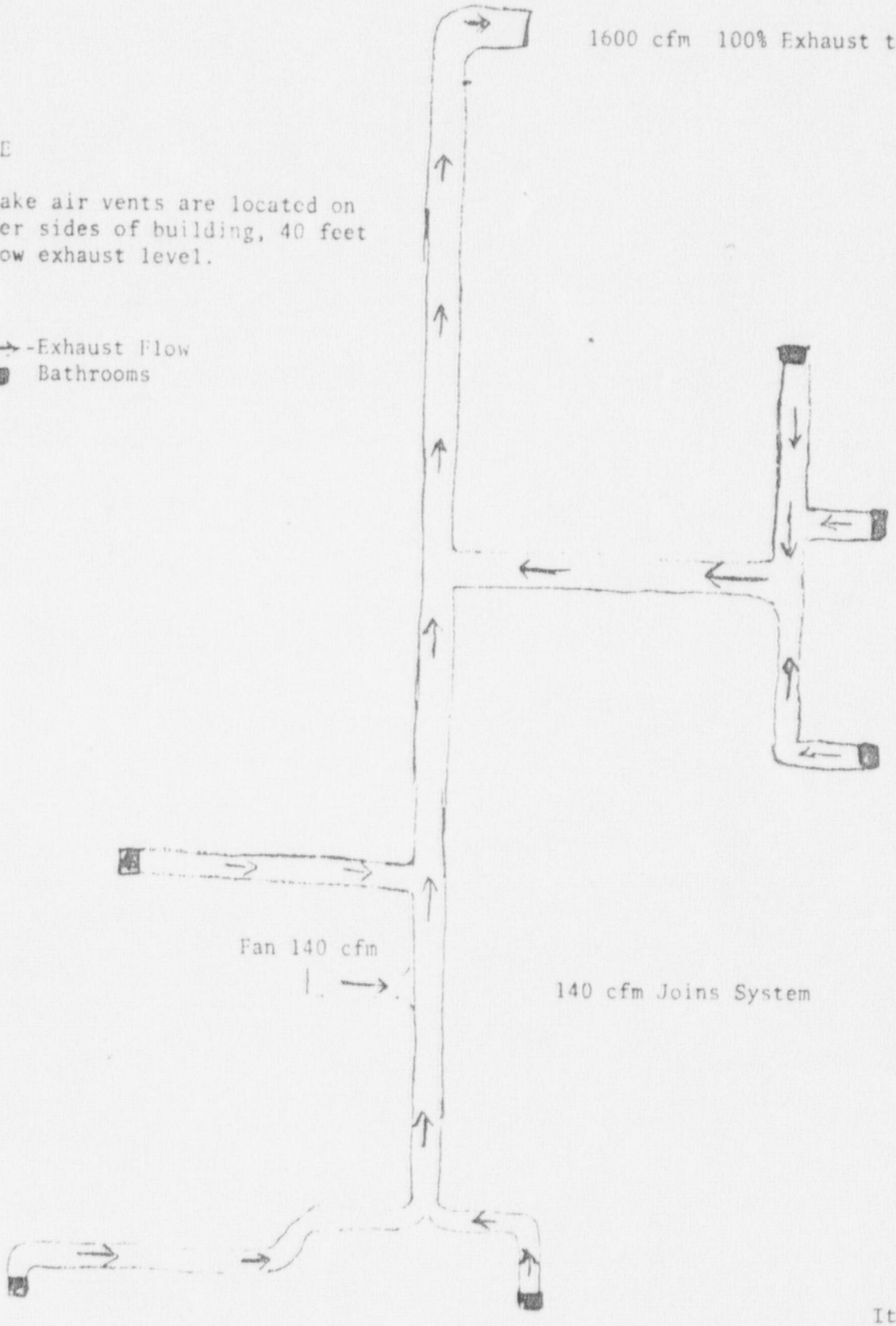
1600 cfm 100% Exhaust to roof

*NOTE

Intake air vents are located on lower sides of building, 40 feet below exhaust level.

→→ -Exhaust Flow

Bathrooms



Item #21
10/22/86