

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.

6.a. RADIOACTIVE MATERIAL FOR MEDICAL USE					
RADIOACTIVE MATERIAL LISTED IN:	ITEMS DESIRED "X"	MAXIMUM POSSESSION LIMITS (In millicuries)	ADDITIONAL ITEMS:	MARK ITEMS DESIRED "X"	MAXIMUM POSSESSION LIMITS (In millicuries)
10 CFR 31.11 FOR IN VITRO STUDIES	X	5 mCi	IODINE-131 AS IODIDE FOR TREATMENT OF HYPERTHYROIDISM	X	25 mCi
10 CFR 35.100, SCHEDULE A, GROUP I	X	AS NEEDED	PHOSPHORUS-32 AS SOLUBLE PHOSPHATE FOR TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA AND BONE METASTASES		
10 CFR 35.100, SCHEDULE A, GROUP II	X	AS NEEDED	PHOSPHORUS-32 AS COLLOIDAL CHROMIC PHOSPHATE FOR INTRACAVITARY TREATMENT OF MALIGNANT EFFUSIONS.		
10 CFR 35.100, SCHEDULE A, GROUP III	X	2 Ci	GOLD-198 AS COLLOID FOR INTRACAVITARY TREATMENT OF MALIGNANT EFFUSIONS.		
10 CFR 35.100, SCHEDULE A, GROUP IV	X	AS NEEDED	IODINE-131 AS IODIDE FOR TREATMENT OF THYROID CARCINOMA		
10 CFR 35.100, SCHEDULE A, GROUP V	X	AS NEEDED	XENON-133 AS GAS OR GAS IN SALINE FOR BLOOD FLOW STUDIES AND PULMONARY FUNCTION STUDIES.		
10 CFR 35.100, SCHEDULE A, GROUP VI					

NRC FORM 313M
(9-81)

8511180617 850910
REQ LIC30
25-18361-01 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. #1 Date: 5-16-84

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

24. PERSONNEL MONITORING DEVICES

	TYPE <small>(Check appropriate box)</small>	SUPPLIER	EXCHANGE FREQUENCY
a. WHOLE BODY	<input checked="" type="checkbox"/> FILM	R.S. Landauer Jr. Co	Monthly
	<input type="checkbox"/> TLD		
	<input type="checkbox"/> OTHER <i>(Specify)</i>		
b. FINGER	<input checked="" type="checkbox"/> FILM	R. S. Landauer Jr. Co	Monthly
	<input type="checkbox"/> TLD		
	<input type="checkbox"/> OTHER <i>(Specify)</i>		
c. WRIST	<input type="checkbox"/> FILM		
	<input type="checkbox"/> TLD		
	<input type="checkbox"/> OTHER <i>(Specify)</i>		

d. OTHER *(Specify)*

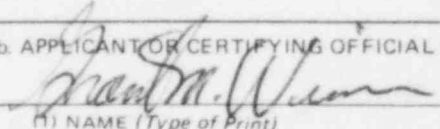
25. FOR PRIVATE PRACTICE APPLICANTS ONLY

a. HOSPITAL AGREEING TO ACCEPT PATIENTS CONTAINING RADIOACTIVE MATERIAL			
NAME OF HOSPITAL		b. ATTACH A COPY OF THE AGREEMENT LETTER SIGNED BY THE HOSPITAL ADMINISTRATOR.	
MAILING ADDRESS			
CITY	STATE ZIP CODE		
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 <small>(See Section 170.31, 10 CFR 170)</small>	b. APPLICANT OR CERTIFYING OFFICIAL <i>(Signature)</i>  (1) NAME <i>(Type of Print)</i> Grant M. Winn
(1) LICENSE FEE CATEGORY: 10 CFR 170.31 & 7B	(2) TITLE Executive Director
(2) LICENSE FEE ENCLOSED: \$ 150.00	c. DATE <div style="text-align: right; font-size: 1.2em;">60304</div>

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.

Item # 4 Individual Users of Radioactive Materials

Hugh C. Huntley, M.D. ✓	2827 Fort Missoula Rd., Missoula, Mont.
David W. Burgan, M.D. ✓	2827 Fort Missoula Rd., Missoula, Mont.
Thomas A. Layne, M.D. ✓	2827 Fort Missoula Rd., Missoula, Mont.
Wesley E. Root, M.D. ✓	2827 Fort Missoula Rd., Missoula, Mont.
Albert R. Ward, M.D. ✓	2827 Fort Missoula Rd., Missoula, Mont.

All users listed previously had qualified for individual licenses and were consolidated under License Number 25-18361-01. Amendment #18

Any future users will submit supplements A and B for approval of training and will amendment to present and future license.

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NRC 313M Item #4---5 June 84

Item #7 page 1

As per change in Nuclear Regulatory Commission Regulations effective Oct 12, 1982, the medical isotope committee is hereby disbanded. In its place, the Radiation Safety Committee is formed as follows:

Assistant Nursing Supervisor, Mrs. Diane Hargas; Management representative, Supervisor of Physical Plant, Mr. Rick Hutchens; and the Radiation Safety Officer, David W. Burgan, M.D., and Albert R Ward, M.D. The focus of this committee will be that of supervising radiation safety as well as reviewing any changes in policies regarding the handling of isotopes or institution of new radioisotopes procedures.

The medical Staff Executive Committee also receives quarterly reports from Dr. David Burgan, head of the Radiology Department regarding activities and problems of the Nuclear Medicine Department.

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Item # 9

Instrumentation

(a) EQUIPMENT

Picker Dyna Camera 4/15

Elcint G-M Survey meter Model GSM-1

Alpha, beta and gamma dectector

0 to 50 mr/hr

0 to 1000 cps

General Electric Radio-Isotope Dose Calibrator CRC-8

0 microcuries to 20 microcuries range

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NRC 313M Item #9 5 June 84

ITEM # 10

Calibration of Dose Calibrators

A. The source used for linearity tests will be first solution from new Molybdenum 99-Tc99m generator and instructions under Appendix D-Section 2 will be used for calibration of the dose calibrator

Sources used for instrument accuracy and constancy tests are 137 Cs and 133 Ba

We also have sources for 60 Co and 57 Co for checking calibrators at regular intervals as cross-checks.

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ITEM # 10

Methods, frequencies and standards used for calibrating instruments

A. Survey instrument

1. The survey instruments are calibrated yearly by either the Montana State Radiation Safety Officer from the Dept of Health and/or the Radiation Physicist Consultant using Midwet Radiation Consultants, Minneapolis, Minn. or Radiation Physicist from the Emanuel Hospital, Portland, Oregon.
2. All calibration is done as required and after any repairs or after battery changes.
3. The next complete check of all survey instruments dose calibrators will be done in March 1985 by a Radiation Physicist approved by the NRC and holding a valid license. Information will be submitted either with the application or as soon as possible after it is obtained.

B. Dose Calibrators

1. The dose calibrators at all three hospitals are checked against known sources of radiation such as Barium 133 and Cesium 137 by the radiation safety officer and again, cross-checks are made daily by recalibration of known doses of radioactive materials obtained from the St Patrick Hospital. Any variation in quantity measured is immediately telephoned to the St Patrick Hospital Departement of Radiology and any further checks which may be necessary to determine any error in the dose calibrators is done. The dose calibrators are also checked by the annual visit of the radiation consultant for accuracy in all ranges. Records are kept at the St Patrick Hospital on all calibration checks and after any battery changes may be appropriate.
2. The present calibration sources include Barium 133 and Cs137, 57 Co and 60 Co
3. All calibrations will comply with instructions set forth in Appendix D form A Guide for Preparation of Application for Medical Programs revision #1.
4. In general, manufacturer's directions will be followed for calibration and maintenance of diagnostic instrumentation. This equipment is frequently checked by local representatives of the General Electric Company familiar with all the equipment and calibration of the equipment.

Office

Utility
Room

Film
Viewing

Community Hospital Floor Department of Radiology
Item # 11 Page 3

Hallway

Missoula Community Hospital
First Floor

X-ray Room

1" = 1' approx.

Patient
Waiting
Area

Hallway
to
Surgery

DSA
Computer

this room
is fully lead
shielded as it
once was a
therapy room.

Scanner &
table

All walls leaded 4 sides
to 300 pkv

Storage
1/4" lead lined
storage box
for waste

lead shielding
(1" thick)

isotope
control

collimators



one story
wing ↑

1/4" / foot

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NRC 313M Item #11 5 June 84

Film Storage

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Department of Radiation Oncology

ROBERT J. MILLER, M.S.
Radiation Physicist

EMANUEL HOSPITAL
2801 N. Gantenben Avenue
Portland, Oregon 97227
(503) 280-4163

March 30, 1984

David Burgan, M.D.
Medical Director, Dept. of Radiology
Missoula Community Hospital
2827 Fort Missoula Rd.
Missoula, Montana 59801

Sir:

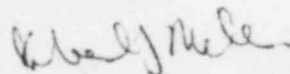
Please find enclosed the calibration reports regarding the following item.

- 1.) Elscint G.M. Counter

The unit appears to be functioning adequately. Also included is a copy of the calibration certificate for the Cs-137 sealed sources used in the calibrations.

Should you have any questions on the above items please do not hesitate to contact me.

Sincerely,



Robert J. Miller, M.S.
Medical Physicist

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RESPONSE LINEARITY CURVE

HOUR	ACTUAL	PREDICTED	+5%	-5%
0	181.0	179.6	188.6	170.7
6	91.0	90.0	94.5	85.5
24	11.38	11.33	11.89	10.76
30	5.68	5.68	5.96	5.39
48	0.71	0.71	0.75	0.67

TEST PERFORMED:
April 01-03, 1984

RESULTS OF THIS TEST FALL WITHIN ALLOWABLE
LIMITS AS DEFINED BY U.S.N.R.C.

NEXT TEST DUE: JULY, 1984

TEST PERFORMED BY:

Kirk Finch
KIRK FINCH, R.T.
FINCO

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HOURS

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ITEM # 12

Personal Training Program

- A. In addition to the didactic program for training technologists, individual instruction almost daily is given since the radiologists work very closely with the technologists in preparation of all dosages of radioactive isotopes to be given to patients. The Radiologist administers all doses and also checks to be certain that the proper isotope is being given and the proper dosage is being given. The technologist does not administer a radioactive medicine.

The technologists are kept abreast of any changes in NRC regulations and the rules and regulations pertaining to our NRC license with all limitations constantly stressed.

The certified technologists are constantly urged to report any unsafe conditions or any breach of safety rules

They are taught appropriate response of emergencies or unsafe conditions, and any minor or major spills are immediately reported to the Radiation Safety Officer and/or the radiologist most available at the moment.

They are constantly viewing their radiation exposure reports and any technologist who has accumulated even a minor radiation exposure is warned of the dangers at the time the reports are submitted from the S Landauer Jr. Co.

Rules and safe conduct are posted in the various parts of the radiology department and nuclear medicine department, which are one and the same.

ITEM # 13

All Scanning procedures are performed at this hospital. Precalibrated doses of Isotope delivered to hospital by dedicated hospital van in approved containers and are administered to patients only by radiologist with a valid license from NRC. Preparation of Lung, Liver, Hida, and Bone preparations utilizing approved kits and following manufacturers' instructions with radiation precautions such as lead shielding and lead syringe holders. All doses are calibrated before injection by dose calibrator at this hospital.

All radioactive wastes are held in lead storage box until returned to St Patrick Hospital by one of the radiologists for complete decay and approved disposal. No storage of Radioactive materials at this institution.

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ITEM # 14

Only precalibrated doseages of Isotope are received as noted in Item #13.

Check for contamination and condition of isotope is made by the technologist or radiation safety officer at the institution.

No storage of material at this institution.

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Item #15

General Laboratory rules for safe use of radioactive material. Appendix G is followed:

R.G10.8 Revision #1 October 1980

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ITEM # 16

Emergency procedures for any minor and major spills. The emergency procedures are as listed in Appendix H. R#G. 10.8 Revision #1 October 1980

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ITEM # 17

Area Survey Procedures

Suggestions and rule and regulations under Appendix I are as followed.

R.G. 10.8 Revision #1 October 1980

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NRC 313M Item #17

5 June84

ITEM #18

There is no waste disposal at this institution. All materials are returned to the ST Patrick Hospital for full decay and eventual disposal.

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ITEM # 19

Therapeutic use of radio-pharmaceutical;

The rules and regulations and suggestions made in Appendix K Procedure for Use of Group IV and V Radio Pharmaceuticals for treatment of Patients will be followed.

It is to be noted that no radioactive gold is used and no Phosphorous 32 is used and no thyroid carcinoma is treated. I 131 treatments are carried out as outpatients and the body level of Iodine 131 never exceeds 25 milliCuries in any patients. All high-level therapy with radioactive Iodine is referred elsewhere.

ITEMS 20, 21, 22 and 23 are not applicable to this application since they are not part of this application.

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NRC 313M Item #'s 20, 21, 22 & 23 5 June 84

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