Medical Center

American Lake Tacoma WA 98493

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In Reply Refer To

License Management Branch U.S. Nuclear Regulatory Commission Region V 1450 Maria Lane, Suite 210 Walnut Creek, CA 94596

Veterans

May 19, 1986

Administration

THRU: Director, Nuclear Medicine Service (115) Veterans Administration Central Office 810 Vermont Avenue, N.W. Washington, D.C. 20420

SUBJ: Materials License Renewal

1. Renewal of Materials License Number 46-19584-01 is requested.

2. Our current license, documents referred to in our license, and NRC regulations have been reviewed. Our license reflects our current program with the following exceptions:

- A. Amendment No. 6, Item 12 Delete Leonard P. Eliel, M.D. as a user. Dr. Eliel no longer works here.
- B. Original Application dated October 24, 1980
 - Item 9. Instrumentation Updated Appendix C form attached.
 - (2) Item 11. Facilities and Equipment Information about Building 18 (Research Service) and Building 85 (GRECC Research) is attached. (Attachments 2 - 5)
 - (3) Item 12. Personnel Training Program Rewritten program attached. (Attachment 6)
 - (4) Item 13. Procedures for Ordering and Receiving Radioactive Materials have been rewritten. (Attachments 7, 8 and 9)
 - (5) Item 14. Procedure for Safely Opening Packages Containing Radioactive Material written which is to be combined with Appendix F. (Attachment 10)
 - (6) Item 18. Waste Disposal Updated Appendix J attached. (Attachment 11)

FEE EXEMPT

8606200441 860606 REG5 LIC30 46-19584-01 PDR Materials License Renewal (Page 2)

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(7) Delete Addendum to Isotope License Application, Research Service use of Isotope Material. This information is now contained in other appropriate sections of the license.

3. For information regarding Renewal Application, contact:

Gary B. Robnett, M.D. FTS 396-6608

WELLIAM E. CLAYFOOL Medical Center Director

Attachments (11)

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Director, Nuclear Medicine Service VA Central Office Washington, D.C. 20420

APPENDIX C

INSTRUMENTATION

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۰.	Manufacturer's name:			
	Manufacturer's model number: <u>CDV - 700 (Side Wall GM Probe)</u>			
	Number of instruments available:			
	Minimum range: mR/hr to mR/hr			
	Maximum range: 5 mR/hr to 50 mR/hr			
b.	Manufacturer's name :			
	Manufacturer's model number: 470 A (Ion Chamber Probe)			
	Number of instruments available :			
	Minimum range : InR/hr to mR/hr			
	Maximum range: $\frac{2 \times 10^4}{mR/hr}$ mR/hr to $\frac{1 \times 10^6}{mR/hr}$ mR/hr			
Dose	calibrator			
Man	afacturer's name:Capintec			
Manu	afacturer's model number: <u>CRC 16</u>			
Num	ber of instruments available			

3. Instr iments used for diagnostic procedures

Type of Instrument	Manufacturer's Name	Model No.
a. Gamma Camera	G.E.	Maxi Camera 400
b. Bone Densitometer	Norland Corp.	278

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

- a. Nuclear Medicine
 - Survey Meter. Victoreen Thyac III 490 Side Window GM Probe .01 - 200 mR/hr
 - (2) Area Monitor. Nuclear Associates Prim Alert 35. Internal GM Probe

(Continued - See Following Page)

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APPENDIX C (Continued)

INSTRUMENTATION

- 4. Other (e.g., liquid scintillation counter, area monitor, velometer) (continued)
 - b. Research Service

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- Survey Meter. Wm. B. Johnson & Assoc., Inc. Model GSN-10S with a GP-200 probe. Low range 0 - 0.2 mR/hr. High range 0 - 20mR/hr.
- (2) Scaler. Wm B. Johnson & Assoc., Inc. Model S-5A for use with (c.) below.
- (3) Iodine Probe. Johnson & Assoc. Inc. Model 201.
- (4) Liquid Scintillation Spectrometer. Beckman Model LS 8000.
- (5) Liquid Scintillation Spectrometer. Packard Tri-Carb Model C2425.
- (6) Gamma Counter. Packard Auto-Gamma Model 5230.
- (7) Gamma Counter. Micro Medic Model 4/600 Plus.

c. GRECC Research

- (1) Gamma Counter. Packard Instruments Model 5265.
- Liquid Scintillation Beta Counter. Packard Instruments Model 3255.

FACILITIES AND EQUIPMENT UTILIZED BY RESEARCH SERVICE AND GREOC RESEARCH (Diagrams Also Attached)

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1. Work with radioisotopes is performed in dedicated research laboratories not accessible to patients or the public. Volitible chemical usage is restricted to a high capacity (850 CFM) fume hood exhausted to outside. The fume hood contains an Atomic Products Corporation Model 112-037 radioiodine mini hood with a charcoal filter. The hood and incubators in Room 107A, Bldg. 18, are nonporous stainless steel. Laboratory benches in all rooms are either nonporous material or topped with plastic backed absorbent material. Microcurie amounts of isotopes used in Rooms 101, 107, 108 and 108A in Bldg. 18N; Room 3B in Bldg. 18S; Bldg. 72 (Animal Facility). (Not necessarily shown on diagrams.)

2. Isotopes are stored in thick-walled glass containers with sealed screw tops as supplied by vendors. P 32 and I 125 are stored in lead containers as supplied by vendors. Isotopes are confined to a refrigerator/freezer which is well marked and placed away from general laboratory work areas and personnel.

3. Radioactive waste barrels are stored in a locked cage.







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" Bldg 85A, Room 128D

Attachment 5, May 19, 1986

PERSONNEL TRAINING PROGRAM

A training program will be conducted for all personnel who work with or in the vicinity of radioactive materials. The training will be in the form of lectures supplemented by audiovisual material. The training will be given prior to assuming duties with or in the vicinity of radioactive materials, during annual refresher training and whenever there is a significant change in duties, regulations or the terms of the license.

The training program will include the following:

- a. All terms of the license pertinent to radiation safety.
- b. Areas where radioactive material is used or stored.
- c. Potential hazards associated with radioactive material.
- d. Radiological safety procedures appropriate to their respective duties.
- e. Pertinent NRC regulations.

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- f. Rules and regulations of the license.
- g. Obligation to report unsafe conditions to the radiation safety officer.
- h. Appropriate response to emergencies and unsafe conditions.
- i. Right to be informed of their radiation exposure and bioassay results.
- j. Locations where notices, copies of pertinent regulations, licenses and license conditions are posted or are available.

Attachment 6, May 19, 1986

PROCEDURES FOR ORDERING AND

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RECEIVING RADIOACTIVE MATERIAL

1. Nuclear Medicine isotopes will be ordered by the Nuclear Medicine Technologist. Isotopes for use by Research Service and GRECC Research will be ordered through a designated authorized user (at this time, Roger S. Birnbaum, Ph.D., Assistant Radiation Safety Officer). These persons will ensure that the requested materials and quantities are authorized by the license and that possession limits are not exceeded.

2. Radioactive materials are to be secured at all times against unauthorized removal. Radiation levels in unrestricted areas are not to exceed limits specified in Paragraph 20.105 of 10 CFR Part 20. Radioactive materials ordered for human use will be verified upon receipt and checked before use.

3. Written records will be maintained for ordering and receipt procedures. These will identify the isotope, compound, activity levels and supplier.

4. During normal duty hours, Nuclear Medicine isotopes are to be delivered directly to Room 204, Bldg. 81. Isotopes for Research Service and GRECC Research will be delivered to Bldg. 18, in the shipping packaging by way of the Supply Warehouse.

5. During off-duty hours, delivery of radioactive packages will be in accordance with the procedures outlined in the two sample memorandums attached.

SAMPLE MEMORANDUM



Memorandum

Date. May 19, 1986

From Administrative Officer of the Day (136)

Sub; Receipt of Packages Containing Radioactive Material for the Nuclear Medicine Department To Medical Center Director (00)

Radioisotopes for use in Nuclear Medicine are to be delivered directly to Room 204, Bldg. 81 by the radiopharmaceutical supplier in a metal box. If delivery is between 4:30 p.m. and 8:00 a.m. or on Saturdays or Sundays, a key to this room will be provided by the AOD. The supplier will unlock the door, turn right after entering the room, place the metal box on the counter top, pick up the empty box from the previous delivery and relock the door.

If the box is wet or damaged, the carrier will immediately notify the AOD who will contact the Radiation Safety Office. and ask the carrier to wait until it can be determined that neither he nor the delivery vehicle is contaminated.

RADIATION SAFETY OFFICER

Gary B. Robnett, M.D. Office Phone: 582-8440, Ext. 6606 Home Phone: 582-0142

WILLIAM E. CLAYPOOL Medical Center Director

Memorandum

Veterans Administration

one May 6, 1986

To

From

Subi

Administrative Officer of the Day (136)

Medical Center Director (00)

Receipt of Packages Containing Radioactive Material for Medical Research Service

Any packages containing radioactive material for Medical Research Service that arrive between 4:30 P.M. and 8:00 A.M. or on Saturdays, Sundays or holidays should be <u>refused acceptance</u>. The driver should be instructed to return during regular duty hours. A note should be sent to Medical Research Service documenting the attempted delivery.

If the package is wet or appears damaged, <u>immediately</u> contact the Medical Center Assistant Radiation Safety Officer. Ask the carrier to remain at the medical center until it can be determined that neither he nor the delivery vehicle is contaminated.

ASSISTANT RADIATION SAFETY OFFICER

Roger S. Birnbaum, Ph.D.

Office Phone: 582-8440, ext. 6877

Home Phone: 272-7010

WILLIAM E. CLAYPOOL Medical Center Director

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PROCEDURES FOR SAFELY OPENING PACKAGES

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CONTAINING RADIOACTIVE MATERIAL

1. Packages containing no more than 10 millicuries of radioactive material consisting solely of Tritium, Carbon 14, Sulfur 35 or Iodine 125, or no more than 100 millicuries of radionuclides with half-lives of less than 30 days, will be opened as follows:

- a. Visually check for leakage. If there is leakage, the package will be isolated and the Radiation Safety Officer notified.
- b. Volatile Iodine 125 and Iodine 131 will be opened under a fume hood.

2. For other packages containing radioactive materials, Appendix F, Regulatory Guild 10.8 will be followed.

APPENDIX J

WASTE DISPOSAL

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

- 1. Liquid waste will be disposed of (check as appropriate)
 - X In the sanitary sewer system in accordance with § 20.303 of 10 CFR Part 20.
 - X By commercial waste disposal service (see also Item 4 below). (See 5.a. below)
 - Other (specify):

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

Returned to the manufacturer for disposal.

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

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

** These generators may contain long-lived radioisotopic contaminants. Therefore, the generator columns will be segregated so that they may be monitored separately to ensure decay to background levels prior to disposal. X Disposed of by commercial waste disposal service (see also Item 4 below).

Other (specify): ____

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

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

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

Other (specify):

The commercial waste disposal service used will be

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Raiph M	. Baltzo	Seattle, WA		
(Name)		(City, State)		

NRC/Agreement State License No. WN-L041-1

 a. Less than 20 microcuries per week of radioactive materials are washed down the sink with copious amounts of water. The weekly water usage exclusive of lawn use is 3,195,000 liters.

b. Animal carcasses are stored in couble plastic bags at -20°C in a styrofoam container in a marked freezer. Those with P 32 or Ca 45 are stored until sufficient half-lives have passed to allow normal incineration of carcasses without any safety hazards.

c. The depleted I 125 sealed source for the Norland Bone Densitometer is returned to the supplier, (at this time, Beta Diagnostics, Inc., Ft. Atkinson, WI) in the special packaging provided and following the supplier's instructions.

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