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JUL 30 P 2:05  
U.S. NRC  
FEE MOUNT BRANCH

July 8, 1985

Ms. B. J. Hoit  
United States Nuclear Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, IL 60137

THIS IS ADDITIONAL INFORMATION, NOT A NEW REQUEST

Dear Ms. Hoit:

Enclosed is a revised list of those persons wishing to be added to our Radioactive Handlers List. I believe this list clearly shows their training and experience with the listed isotopes and the amounts and dates of use. Also, enclosed is a copy of our Radiation Safety Program, emergency procedures and safety handling of incoming radioactive packages on which they are tested and reviewed annually.

We would like to request the deletion of Xenon-133 from our license as we do not have a need at present for the possession or use of this by-product.

Medx will be making available a locked storage room with an outdoor access for delivery of radioactive materials. A locked box inside the storage room will be clearly marked for holding radioactive materials until trained personnel can pick it up.

Nuclear Pharmacy, Inc. will be given a set of keys for these two locks. We expect this to be implemented during the week of the 8th of July.

Sincerely,

*John H. Loebel*

John H. Loebel  
Encls.  
JHL:jar

Applicant *July 20*  
Check No. *20928*  
Amount/Fee Category *\$120.00*  
Type of Fee *AMD*  
Date Check Rec'd *12/6/85*  
Received By *SK*

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JUL 10 1985

REGION III

(new ck sent in)  
*July 20 A*  
Check No. *1064*  
Amount/Fee Category *\$120 (3L)*  
Type of Fee *AMD*  
Date Check Rec'd *2/5/86*  
*SK*

8602200097 851213  
REQ3 LIC30  
12-17335-01 PDR

CONTROL NO. 7 935 1

# ISOTOPE HANDLERS

User	Training & Experience	Isotopes Used	Amounts Used	Dates of Use
John Loebel	AART (N) '77 #145538			
Douglas V. Hausenbauer	AART (N) '76 #106198XN AART (R) '75 #106198			
Frank Stankiewicz	Radiation Safety Training from Searle Diagnostic Stan Huber Consultants	Co57 I125 Ra226 Tc99m I131 Ga67 Au195	Microcurie " " Millicurie " " Microcurie	'64-79 '73-79 '73-79 '84-85 '84-85 '84-85 '84-85
Dave Peerenboom	Univ. Ill. Radiation Biology	Tc99m Co57 I131	Millicurie Microcurie "	'71-85 '71-85 '71-85
Edward Cholewa	Stan Huber Consultants  Radiation Safety	Tc99m Co57 (sealed source) Ga67 I131 Au197 (sealed source)	Millicurie Microcurie Millicurie Microcurie "	'83-85 '83-85 '83-85 '83-85 '83-85
Michael Fenili	Stan Huber Consultants Radiation Safety So. Ill. Univ. Nuclear Physics	Tc99m Ga67 I131	Millicurie " Microcurie	'83-85 '83-85 '83-85

(continued)

ISOTOPE HANDLERS

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Robert Rozoff	Stan Huber Consultants Safety	Co57 (sealed source)	Microcurie	'81-85
Richard Matusiak	Nuclear Chgo. Searle/ Siemens Radiation Safety Training Stan Huber Consultants Safety Training	Tc99m I131	Millicurie Microcurie	'62-85 '62-85
William Nupnau	Stan Huber Radiation Safety Training	Tc99m I131 Ga67 Au195 Co57	Millicurie Microcurie Millicurie Microcurie "	'83-85 '83-85 '83-85 '83-85 '83-85

### Radiation Safety Program

1. Wear disposable gloves at all times while handling radioactive materials.
2. Monitor hands and clothing for contamination after each procedure or before leaving the area.
3. Do not eat, drink, smoke, or apply cosmetics in any area where radioactive materials are stored or used.
4. Do not store food, drink, or personal effects with radioactive material.
5. Wear personnel monitoring devices (film badge or TLD) at all times while in areas where radioactive materials are used or stored. These devices should be worn at chest or waist level. Personnel monitoring devices when not being worn to monitor occupational exposures should be stored in a designated low background area.
6. Wear TLD finger badges whenever handling millicurie quantities of radioactive materials, especially when drawing doses, preparing liquid flood phantoms, and handling syringes.
7. Dispose of radioactive waste only in specially designated and properly shielded receptacles.
8. Confine radioactive solutions in covered containers plainly identified and labeled with name of compound, radionuclide, date, activity, and radiation level, if applicable.
9. Always transport radioactive material in shielded containers.
10. If a "fillable" flood phantom is used, the outside portion will be wipe tested and monitored with a G-M survey meter. If contamination is found, decontaminate and resurvey prior to use.
11. The external surface of the final source container shield will be wipe tested when incoming shipments of radioactive materials are opened. The wipes will be assayed using a low level G-M survey meter and precautions will be taken as necessary against the spread of contamination. Record this information on the "Radioactive Shipment and Inspection" form.
12. Any employee who handles liquid radioactive doses will monitor hands and clothing after each use. The employee will use a G-M survey meter and record the results on the "daily personnel survey" form.
13. Disposable gloves and protective clothing (lead aprons) will be worn as needed by personnel working with radioactive materials. If any garment is contaminated, it shall be placed in a plastic bag and taken to the lead shielded Active Storage Area for decay to background levels prior to laundry.

14. Records of radiation exposure (film badge reports) shall be maintained, periodically reviewed and available for review with personnel. The Radiation Safety Officer is responsible for badge control, distribution and report reviews.
15. All solid waste potentially contaminated with radioactive material will be monitored with a suitable instrument, usually a low level g.m. survey meter, to ensure that no detectable radioactivity remains before disposal by normal methods. Any shielding material is removed before monitoring. Each survey meter should be checked with an operational check source to assure proper functioning before usage. Such operational checks should be recorded at least on the monthly radiation survey records.
16. Only necessary amounts of radioactive materials are ordered and a minimal inventory is kept on hand.
17. All radionuclides will be properly labeled with a radiation symbol and the words "Caution - Radioactive Materials." Identification shall be recorded on the label concerning the nuclide, activity, chemical form and date. Always transport radioactive material within the department in shielded containers.
18. Records of byproduct material receipt, inventory, assays, utilization and disposal shall be kept current and maintained in a clear and concise manner.
19. All personnel working with, or in the vicinity of radioactive materials, are expected to be familiar with NRC Regulatory Guides ~~8-19~~<sup>10-8</sup> "Operating Philosophy for Maintaining Occupational Radiation Exposures as Low As Reasonably Achievable" (ALARA).
20. Monthly radiation surveys of the storage area shall be made by the Radiation Safety Officer or his delegates. More frequent surveys as needed should be made and recorded by the R.S.O. or users and maintained in the office files.
21. All NRC documents referenced in this institution's NRC license application and Radiation Safety Program are to be maintained in the radiation files and available at any time from the Radiation Safety Officer. A notice of this location and availability is also to be posted in the radioactive material usage area.
22. Any survey readings above 2 mr/hr indicates the probable need for additional shielding and any wipe test reading above normal background (usually 0.05 mr/hr) indicates the need for decontamination.

## EMERGENCY PROCEDURES (DECONTAMINATION)

### Major Spills:

1. CLEAR THE AREA. Notify all persons not involved in the spill to vacate the room.
2. PREVENT THE SPREAD. Cover the spill with absorbent pads, but do not attempt to clean it up. Confine the movement of all personnel potentially contaminated to prevent the spread.
3. SHIELD THE SOURCE. If possible, the spill should be shielded, but only if it can be done without further contamination or without significantly increasing your radiation exposure.
4. CLOSE THE ROOM. Vacate and lock the room to prevent entry.
5. CALL FOR HELP. Notify the Radiation Safety Officer immediately.
6. PERSONNEL DECONTAMINATION. Contaminated clothing should be removed and stored for further evaluation by the Radiation Safety Officer. If the spill is on the skin, flush thoroughly and then wash with mild soap and lukewarm water.

### Minor Spills:

1. NOTIFY. Notify all persons in the area that a spill has occurred.
2. PREVENT THE SPREAD. Cover the spill with absorbent paper.
3. CLEAN UP. Use disposable gloves and remote handling tongs. Carefully fold the absorbent paper and pad. Insert into a plastic bag and dispose of in the radioactive waste container. Include all other contaminated materials such as disposable gloves.
4. SURVEY. With a G.M. Survey Meter, check the area around the spill, your hands and clothing, for contamination.
5. REPORT. Report incident to the Radiation Safety Officer.

More detailed decontamination procedures for specific incidents is available in the Radiation file cabinet. Refer to "NCRP" folder for the National Council on Radiation Protection Handbook Report No. 8 entitled, "Control and Removal of Radioactive Contamination in Laboratories".

RADIATION SAFETY OFFICER: Floyd Rowan

ON DUTY PHONE: 312-991-0660

HOME PHONE: 312-894-7184

## APPENDIX F

### PROCEDURES FOR SAFELY OPENING PACKAGES CONTAINING RADIOACTIVE MATERIAL

1. Special requirements will be followed for packages containing quantities of radioactive material in excess of the Type A quantity limits as specified in paragraphs 20.205(a)(1) and (c)(1) of 10 CFR Part 20 (more than 20 Ci for Mo-99 and Tc-99m). They will be monitored for surface contamination and external radiation levels within 3 hours after receipt if received during working hours or within 18 hours if received after working hours, in accordance with the requirements of paragraphs 20.205(a) through (c). All shipments of liquids greater than exempt quantities will be tested for leakage. The NRC Regional Office will be notified in accordance with the regulations if removable contamination exceeds  $0.01 \mu\text{Ci}/100 \text{ cm}^2$  or if external radiation levels exceed 200 mR/hr at the package surface or 10 mR/hr at 3 feet (or 1 m).
  2. For all packages, the following additional procedures for opening packages will be carried out:
    - a. Put on gloves to prevent hand contamination.
    - b. Visually inspect package for any sign of damage (e.g., wetness, crushed). If damage is noted, stop procedure and notify Radiation Safety Officer.
    - c. Measure exposure rate at 3 feet (or 1 m) from package surface and record. If  $>10 \text{ mR/hr}$ , stop procedure and notify Radiation Safety Officer.
    - d. Measure surface exposure rate and record. If  $>200 \text{ mR/hr}$ , stop procedure and notify Radiation Safety Officer.
    - e. Open the package with the following precautionary steps:
      - (1) Open the outer package (following manufacturer's directions, if supplied) and remove packing slip.
      - (2) Open inner package and verify that contents agree with those on packing slip. Compare requisition,\* packing slip, and label on bottle.
      - (3) Check integrity of final source container (i.e., inspect for breakage of seals or vials, loss of liquid, and discoloration of packaging material).
      - (4) Check also that shipment does not exceed possession limits.
    - f. Wipe external surface of final source container and remove wipe to low background area. Assay the wipe and record amount of removable radioactivity (e.g.,  $\mu\text{Ci}/100 \text{ cm}^2$ , etc.). Check wipes with a thin-end-window G-M survey meter, and take precautions against the spread of contamination as necessary.
    - g. Monitor the packing material and packages for contamination before discarding.
      - (1) If contaminated, treat as radioactive waste.
      - (2) If not contaminated, obliterate radiation labels before discarding in regular trash.
  3. Maintain records of the results of checking each package, using "Radioactive Shipment Receipt Record" (see next page) or a form containing the same information.
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- \* In the case of special orders (e.g., therapy doses), also compare with physician's written request.