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COLUMBIA HOSPITAL FOR WOMEN MEDICAL CENTER

2425 L STREET, NORTHWEST
WASHINGTON, D.C. 20037
(202) 293-6500

February 19, 1988

Josephine Piccone, Ph.D.
Nuclear Materials Licensing
U.S. Nuclear Regulatory Commission, Region 1
475 Allendale Road
King of Prussia, PA 19406

Re: Radioactive Material License No. 08-15994-01
Control No. 108231

Dear Dr. Piccone:

The following is submitted in response to your questions regarding our recent license amendment request. Responses are in the order of your inquiries.

Item #1

Gerald Sokol, M.D. will act as Radiation Safety Officer. Dr. Sokol was authorized for the requested materials on Florida license no. 96-1. A copy of that license was included in the amendment request.

Item #2

Refer to revised Brachytherapy source use record attached as Enclosure #1.

Item #3

Refer to Enclosure #2 "Radiation Safety Committee."

Item #4

Refer to Enclosure #3 "Responsibilities of the Radiation Safety Officer" and delegation of authority.

Item #5

Refer to Enclosure #4 "ALARA Program."

Item #6

The following survey instruments will be on hand:

(1) Eberline E-130A (0-1000 mR/hr)

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(1) Eberline E-520 (0-2000 mR/hr - dual range) or equivalent.

The Eberline E-520 survey meter has been ordered. In the meantime, the E-130 is on hand and a loaner E-120 has been obtained and will be maintained on hand until delivery of the E-520.

Item #7

A. Loaner survey instruments will be obtained when our meters are in for repair or calibration.

B. At the time of survey meter calibration, the apparent exposure rate from a built-in or owner supplied check source will be determined and recorded. Each survey instrument will be checked with a dedicated check source each day of use.

Item #8

Refer to Enclosure #5 "Procedures for Safely Opening Packages Containing Radioactive Material."

Item #9

Refer to Enclosure #6 "Procedures for Ordering and Receiving Radioactive Material."

Item #10

Refer to Enclosure #7 "Personnel Training Program."

Item #11

A quarterly physical inventory of all sealed sources or brachytherapy sources and a quarterly survey of dose rates in all areas where such sources are stored will be performed as required in 10 CFR 35.59 "G & H."

Item #12

Patients will not be released until either the exposure rate from the patients is less than 5 millirem/hour at 1 meter or the retained radioactivity is less than 30 millicuries.

Item #13

A. Cesium sources will be stored in a cesium safe with a keylock door. The safe is constructed of steel and shielded with 4" of lead. Iodine and Iridium will be stored in their original shipping containers or placed behind lead bricks in the storage area. An initial survey will be made in the storage area and adjacent areas after the cesium is placed in the safe to insure that levels do not exceed those in 10 CFR 20.103.

Radiation levels in adjacent areas will be made following the receipt of the first three packages containing I-125 or Ir-192. After it has been

established that radiation levels do not exceed those of 10 CFR 20.103, levels will be monitored on a quarterly basis.

B. Radioactive material will be stored in the locked storage room.

C. Radioactive material will be handled with remote handling devices such as long handled tweezers or tongs. Radioactive material will be transported to and from the implant locations in a lead container placed on a cart or in an apparatus of similar design.

D. Individuals handling sealed sources, i.e., loading or unloading devices, will be provided with extremity monitors.

Item #14

Promptly after the implant of sealed sources, the dose rates in contiguous restricted and unrestricted areas will be made to demonstrate compliance with the requirements of 10 CFR 20.105. These records will be maintained for two years and will include the time and date of the survey, a plan of the areas or list of points surveyed, the measured dose rate at several points expressed in millirem per hour, the instrument used to make the survey, and the initials of the individual who made the survey.

Item #15

Sources at the end of their clinical usefulness will be either returned to the manufacturer, transferred to a licensed waste vendor or held on site for decay. In the case of storage on site, the material will be stored in a shielded container in the storage area. Material will be held for ten half lives and until the radiation levels adjacent to the unshielded sources are less than or equal to background levels when surveyed with a low range survey meter.

If you have any further questions or require additional information, please do not hesitate to contact the undersigned. Your expeditious response to our request is greatly appreciated.

Sincerely,

G. Patrick Kane, FACHE
President and
Chief Executive Officer

GPK/jpm

Enclosure #1

PROCEDURES FOR MAINTAINING RECORDS OF IMPLANT SOURCE INVENTORY AND USE

1. Use a locking installed cabinet or safe to store all implant sources.

2. Maintain a list of names of those individuals authorized to handle implant sources and have them initial beside their names.

3. For long-lived sources, maintain a map of the storage drawer and indicate the activity of the source at each storage point. For short-lived sources stored in the manufacturer's shipping container, the area in the safe where container is put will be designated. Also, be sure to add the sources to the inventory log.

4. Post the map and the list of individuals permitted to handle the sources in the storage area or on the inventory log (refer to attached sample).

5. Each time a source is removed, make a record of the number and activity of sources removed, the room number of use or patient's name, and the time and date they were removed from storage; initial the record.

6. Each time sources are returned to storage, immediately count them to ensure that every source removed has been returned. Then make a record of the number and activity of sources returned, the room number of use or patient's name, and the time and date they were returned to storage; initial the record.

7. If you ever perceive a discrepancy between the record and the number of sources in use and in storage, notify the RSO immediately.

Enclosure #2

RADIATION SAFETY COMMITTEE

Meeting Frequency

The radiation safety committee shall meet as often as necessary to conduct its business but not less than once in each calendar quarter.

Charge

The committee shall:

1. Ensure that licensed material will be used safely. This includes review as necessary of training programs, equipment, facility, supplies, and procedures;

2. Ensure that licensed material is used in compliance with NRC regulations and the institutional license;

3. Ensure that the use of licensed material is consistent with the ALARA philosophy and program;

4. Establish a table of investigational levels for individual occupational radiation exposures; and

5. Identify program problems and solutions.

Responsibilities

The committee shall:

1. Be familiar with all pertinent NRC regulations, the license application, the license, and amendments;

2. Review the training and experience of authorized users and the Radiation Safety Officer (RSO) to determine that their qualifications are sufficient to enable the individuals to perform their duties safely and are in accordance with the regulations and the license;

3. Review on the basis of safety and approve or deny, consistent with the limitations of the regulations, the license, and the ALARA philosophy all requests for authorization to use radioactive material within the institution;

4. Prescribe special conditions that will be required during a proposed method of use of radioactive material such as requirements for bioassays, physical examinations of users, and special monitoring procedures;

5. Review quarterly the RSO's summary report of the occupational radiation exposure records of all personnel, giving attention to individuals or groups of workers whose occupational exposure appears excessive;

6. Establish a program to ensure that all persons whose duties may require them to work in or frequent areas where radioactive materials are used (e.g., nursing, security, housekeeping, physical plant) are appropriately instructed as required in 19.12 of 10 CFR Part 19;

7. Review at least annually the RSO's summary report of the entire radiation safety program to determine that all activities are being conducted safely, in accordance with NRC regulations and the conditions of the license, and consistent with the ALARA program and philosophy. The review must include an examination of records, reports from the RSO, results of NRC inspections, written safety procedures, and the adequacy of the management control system;

8. Recommend remedial action to correct any deficiencies identified in the radiation safety program;

9. Maintain written minutes of all committee meetings, including members in attendance and members absent, discussions, actions, recommendations, decisions, and numerical results of all votes taken; and

10. Ensure that the byproduct material license is amended if required prior to any changes in facilities, equipment, policies, procedures, and personnel.

Administrative Information

1. Membership must include one authorized user for each type of use authorized by the license, the RSO, a representative of the nursing service, and a representative of management who is neither an authorized user nor an RSO. Management may appoint alternate members to participate in meetings in the case of absence or principal members and should consider appointing as adjunct members representatives from security, physical plant, housekeeping, and other departments. (Adjunct members should abstain from balloting on radiation safety technical questions such as Items 2 through 5 in the "Responsibilities" section above.)

2. To establish a quorum, one-half of the Committee's membership, including the RSO and the management representative, must be present.

3. To the extent that they do not interfere with the mission of the Committee, management may assign other responsibilities such as x-ray radiation safety, quality assurance oversight, and research project review and approval.

Enclosure #3

RESPONSIBILITIES OF THE RADIATION SAFETY OFFICER

The specific duties of the Radiation Safety Officer include:

1. Establishing and maintaining operations procedures so that the radiation exposure of each worker is kept as far below the maximum permissible exposure as is practicable. Written policies will be evaluated and implemented for the following items:

   a. Authorizing the purchase of byproduct material.
   b. Receiving and opening packages.
   c. Storing byproduct material.
   d. Keeping an inventory.
   e. Using byproduct material.
   f. Taking emergency action if material is lost.
   g. Disposing of byproduct material
   h. Training of personnel subjected to a radiation environment.

2. Instructing personnel in safety working practices and in the nature of injuries resulting from overexposure to radiation.

3. Assuring that personnel monitoring devices are used where indicated and that records are kept of the results of such monitoring.

4. Establishing investigational levels and promptly investigating any case of excessive or abnormal exposure to determine the cause and taking steps to prevent its recurrence. This includes overexposures, accidents, spills, transfers, and any other deviation from approved radiation safety practice.

5. Advise radiation workers of any unusual procedures which they must employ in order to reduce unnecessary exposure.

6. See that all license commitments and regulatory requirements have been met. To this end, Health Physics Services, Inc., Rockville, Maryland will assist the Radiation Safety Officer in managing the overall radiation protection program.

7. Review the radiation survey reports furnished by Health Physics Services, Inc. The survey will include the following:

   a. Smears for spreadable contamination.
   b. Survey meter measurements in those areas where radioactive materials are used or stored.
   c. A review of all personnel dosimetry reports.
   d. A review of the records of inventory, isotope receipt, isotope disposal, and other health physics records for accuracy and completeness.
   e. Required dose calibrator instrumentation tests (e.g., accuracy and linearity).

7. Continued

   f. Sealed source leak testing.
   g. Survey meter calibration results.
   h. Any other health physics records pertinent to license compliance.

8. Be available to respond to any radiation emergency.

9. The RSO will brief facility administration once each year on the byproduct material program.

10. The RSO will assist the Radiation Safety Committee in the performance of its duties.

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2425 L STREET, NORTHWEST
WASHINGTON, D.C. 20037
(202) 293-6500

February 19, 1988

To: All Employees

Subject: Radiation Safety Officer/Delegation of Authority

Dr. Gerald Sokol has been appointed Radiation Safety Officer and is responsible for ensuring the safe use of radiation. The Radiation Safety Officer is responsible for managing the radiation safety program; identifying radiation safety problems; initiating, recommending, or providing corrective actions; verifying implementation of corrective actions; and ensuring compliance with regulations. The Radiation Safety Officer is hereby delegated the authority necessary to meet those responsibilities.

The Radiation Safety Officer is also responsible for assisting the Radiation Safety Committee in the performance of its duties.

G. Patrick Kane
Administrator

GPK/jpm

Copy to: Associate Administrators
Assistant Administrators

Enclosure #4

COLUMBIA HOSPITAL FOR WOMEN MEDICAL CENTER

2425 L STREET, NORTHWEST
WASHINGTON, D.C. 20037
(202) 293-6500

FOREWARD

Ionizing radiation is among the most versatile and useful tools of modern medicine and biomedical research. Like many other instrumentalities of medicine, ionizing radiation is potentially hazardous unless used with strict adherence to safety rules and procedures. Thus, the safety rules which govern the uses of radiation are concerned with preventing genetic damage as well as with protecting the health of the exposed individual.

The rules and procedures set forth here have one single, straightforward purpose: to protect the patients, employees, and visitors from unnecessary and potentially harmful radiation.

The existing radiation safety program has many facets designed to keep the levels of exposure to personnel at a minimum. This program has three main phases:

PHASE I

Achieve the objective of maintaining radiation exposures to "As Low As Reasonably Achievable" (ALARA) to employees, visitors, students, and patients who are not under medical supervision of the administration of radiation or radioactive material for diagnostic or therapeutic purposes.

PHASE II

Control operational procedures by the user of radiation sources.

PHASE III

Evaluate the radiation safety program performed by the Radiation Safety Officer, health physicist consultant, and the Radiation Safety Committee.

We, the management of this hospital, are committed to the program procedures and development of new procedures as appropriate to implement the ALARA concept.

Administrator

2/19/88
Date

RADIATION SAFETY PROGRAM (ALARA)

I. INTRODUCTION

A. Purpose

This program sets forth the philosophy and general management policies that are established by this hospital to achieve the objective of maintaining radiation exposures "as low as reasonably achievable" (ALARA), for employees, visitors, students, and patients not under medical supervision for the administration of radiation or radioactive materials for diagnostic or therapeutic purposes.

B. Policy

In addition to complying with the limits set forth in pertinent regulations, guides, and standards, users and supervisors of radiation sources shall make every reasonable effort to maintain radiation exposures, and releases of radioactive materials in effluents to unrestricted areas to as low as reasonably achievable.

II. MANAGEMENT COMMITMENT

A. The management and the entire staff of this hospital are committed to the program described herein for keeping radiation exposures, individual and collective, to as low as reasonably achievable.

B. We will perform a formal annual review of the radiation safety program including ALARA considerations. This shall include reviews of operating procedures and past exposure records, inspections, etc., and consultations with the radiation protection staff or outside consultants.

C. Modification to operating and maintenance procedures and to equipment and facilities will be made where they will reduce exposures unless the cost, in our judgment, is considered to be unjustified. We will be able to demonstrate, if necessary, that improvements have been sought, that modifications have been considered, and that they have been implemented where reasonable. Where modifications have been recommended but not implemented, we will be prepared to describe the reasons for not implementing them.

D. In addition to maintaining doses to individuals as far below the limits as is reasonably achievable, the sum of the doses received by all exposed individuals will also be maintained at the lowest practicable level. It would not be desirable, for example, to hold the highest doses to individuals to some fraction of the applicable limit if this involved exposing additional people and significantly increasing the sum of radiation doses received by all involved individuals.

E. The services of Health Physics Services, Inc., have been contracted to assist in the program management to insure that all pertinent hospital staff and employees receive appropriate briefings and training in radiation safety including ALARA concepts.

III. RADIATION SAFETY COMMITTEE

In addition to other responsibilities delineated in pertinent radiation control standards, the Radiation Safety Committee (RSC) shall:

A. Determine whether current procedures are, in fact, maintaining radiation exposures to ALARA. The efforts of the Radiation Safety Officer (RSO), health physics consultant, users, and supervisors of radiation sources will be reviewed during the committee meeting.

B. When considering a new use of byproduct material, the RSC will review the efforts of the applicant to maintain exposure ALARA. The user should have systematized procedures to ensure ALARA, and shall have incorporated the use of special equipment such as syringe shields, rubber gloves, etc., in his proposed use.

C. Perform an annual audit of all aspects of the radiation safety program to insure that the overall philosophy and policies of the ALARA program are being accomplished.

D. The RSC will thoroughly review the qualifications of each applicant with respect to the types and quantities of materials and the uses for which he has applied, to assure that the applicant will be able to take appropriate measures to maintain exposure ALARA.

E. Delegation of Authority

1. The RSC will delegate authority to the RSO and his consultant staff for enforcement of the ALARA concept.

2. The RSC will support the RSO in those instances where it is necessary for the RSO to assert his authority. Where the RSO has been overruled, the Committee will record the basis for its action in the minutes of the Committee's quarterly meeting.

F. Review of the ALARA Program

1. The RSC will encourage all users to review current procedures and develop new procedures as appropriate to implement the ALARA concept.

2. The RSC will perform a quarterly review of occupational radiation exposure with particular attention to instances where Investigational Levels in Table 1 below are exceeded. The principle purpose of this review is to assess trends in occupational exposure as an index of the ALARA program quality and to decide if action is warranted when Investigational Levels are exceeded.

3. The RSC will evaluate our institution's overall efforts for maintaining exposures ALARA on an annual basis. This review will include the efforts of the RSO, authorized users, and workers as well as those of management.

IV. RADIATION SAFETY OFFICER, AND HIS CONSULTANT STAFF ARE RESPONSIBLE FOR THE FOLLOWING:

A. Annual and Quarterly Review

1. Annual review of the Radiation Safety Program. The RSO will perform an annual review of the Radiation Safety Program for adherence to ALARA concepts. Reviews of specific procedures may be conducted on a more frequent basis.

2. Quarterly review of Occupational Exposures. The RSO will review at least quarterly the external radiation exposures of authorized users and workers to determine that their exposures are ALARA in accordance with the provisions of paragraph VII of this program.

3. Quarterly review of records of Radiation Level Surveys. The RSO will review radiation levels in restricted and unrestricted areas to determine that they were at ALARA levels during the previous quarter.

B. Education Responsibilities for an ALARA Program

1. The RSO will schedule briefings and educational sessions to inform workers of ALARA program efforts.

2. The RSO will assure that authorized users, workers, and ancillary personnel who may be exposed to radiation will be instructed in ALARA philosophy and informed that management, the RSC and the RSO are committed to implementing the ALARA concept.

C. Cooperative Effort for Development of ALARA Procedures

Radiation workers will be given opportunities to participate in the formulation of the procedures that they will be required to follow.

1. The RSO will be in close contact with all users and workers in order to develop ALARA procedures for working with radioactive materials.

2. The RSO will establish procedures for receiving and evaluating the suggestion of individual workers for improving health physics practices and encourage the use of those procedures.

D. Reviewing Instances of Deviation from Good ALARA Practices

The RSO will investigate all known instances of deviation from good ALARA practices and, if possible, determine the causes. When the cause is known, the RSO will require changes in the program to maintain exposures ALARA.

V. AUTHORIZED USERS

A. New Procedures Involving Potential Radiation Exposures

1. The authorized user will consult with, and receive the approval of, the RSO and/or RSC during the planning stage before using radiation sources for a new procedure.

2. The authorized user will evaluate all procedures before using radiation sources to ensure that exposures will be kept ALARA. This may be enhanced through the application of trial runs.

B. Responsibility of the Authorized User to Those He Supervises

1. The authorized user will explain the ALARA concept and his commitment to maintain exposures ALARA to all of those he supervises.

2. The authorized user will ensure that those under his supervision who are subject to occupational radiation exposure are trained and educated in good health physics practices and in maintaining exposures ALARA.

VI. PERSONS WHO RECEIVE OCCUPATIONAL RADIATION EXPOSURES

A. The worker will be instructed in the ALARA concept and its relationship to his working procedures and work conditions.

B. The worker will know what recourses are available if he feels that ALARA is not being promoted on the job.

VII. ESTABLISHMENT OF INVESTIGATIONAL LEVELS IN ORDER TO MONITOR INDIVIDUAL OCCUPATIONAL EXTERNAL RADIATION EXPOSURES

This institution hereby establishes Investigational Levels for occupational external radiation exposure which, when exceeded, will initiate review or investigation by the Radiation Safety Officer or consultant staff. The Investigational Levels that we have adopted are listed in Table 1 below. These levels apply to the exposure of individual workers.

TABLE 1

	Investigational Levels - (mrems per calendar quarter)	
	LEVEL I	LEVEL II
1. Whole body; head and trunk; active blood-forming organs; lens of eyes; or gonads	125	375
2. Hands and forearms; feet and ankles	1875	5625
3. Skin of whole body*	750	2250

*Not normally applicable to medical facilities except those using significant quantities of beta emitting isotopes.

The Radiation Safety Officer will review the results of personnel monitoring, film badge report, not less than once in any calendar quarter, as is required by 10 CFR 20, 20.401. The following actions will be taken at the Investigational Levels as stated in Table 1:

A. Quarterly exposure of individuals to less than Investigational Level I.

Except when deemed appropriate by the RSO, no further action will be taken in those cases where an individual's exposure is less than Table 1 values for the Investigational Level I.

B. Personnel exposures equal to or greater than Investigational Level I, but less than Investigational Level II.

The RSO will review the exposure of each individual whose quarterly exposures equal or exceed Investigational Level I. He will report the results of his reviews at the first RSC meeting following the quarter when the exposure was recorded. If the exposure does not equal or exceed Investigational Level II, no action related specifically to the exposure is required unless deemed appropriate by the Committee. The Committee will, however, consider each such exposure in comparison with those of others performing similar tasks as an index of ALARA program quality and will record the review in the Committee minutes.

C. Exposure equal to or greater than Investigational Level II.

The RSO will investigate in a timely manner the cause(s) of all personnel exposures equaling or exceeding Investigational Level II and, if warranted, take action. A report of the investigation, actions taken, if any, and a copy of the individual's film badge record will be presented to the RSC at the first RSC meeting following completion of the investigation. The details of these reports will be recorded in the Committee minutes. The minutes, containing details of the investigation, will be made available to NRC inspectors for review at the time of the next inspection.

D. Reestablishment of an individual occupational worker's Investigational Level II above that listed in Table 1.

In cases where a worker's or a group of workers' exposure needs to exceed Investigational Level II, a new, higher investigational Level II may be established on the basis that it is consistent with good ALARA practices for that individual or group. Justification for a new Investigational Level II will be documented.

The Radiation Safety Committee will review the justification from, and will approve, all revisions of Investigational Levels II. In such cases, when the exposure equals or exceeds the newly established Investigational Level II, those actions listed in paragraph C above will be followed.

VIII. SIGNATURE OF CERTIFYING OFFICIAL

I hereby certify that this institution has implemented the ALARA Program set forth above.

Signature of Administrator

G. Patrick Kane

Name (type or print)

President / CEO

Title

PROCEDURES FOR SAFELY OPENING PACKAGES CONTAINING RADIOACTIVE MATERIAL

For safely opening packages containing radioactive materials, the technologist will:

1. Put on gloves to prevent hand contamination.
2. Visually inspect packages for any sign of damage (wetness, crushed, etc.). If damage is noted, the procedure will be stopped and the radiation safety officer notified.
3. Measure exposure rate at 3 feet from the package surface and record. If greater than 10 mR per hour, the procedure will be stopped and the radiation safety officer notified.
4. Measure surface exposure rate and record. If greater than 200 mR per hour, the procedure will be stopped and the radiation safety officer notified.
5. Wipe external surface of shipping container and remove wipe to low background area. Assay the wipe and record amount of removable radioactivity (e.g., dpm/100 sq. cm., etc.) Check wipes with a then end window GM survey meter. The procedure will be stopped if removable contamination is greater than 22,000 dpm/100 sq. cm. above background. The radiation safety officer and health physics consultant shall be notified as well as the final delivering carrier and the appropriate regulatory offices.
6. Open the package with the following precautionary steps:

   a. Open the outer package following manufacturer's instructions, if supplied, and remove packing slip.
   b. Open inner package and verify that contents agree with those on packing slip. Compare requisition, packing slip, and label on bottle.
   c. Check integrity of final source container (i.e., inspect for breakage of seals or vials, loss of liquid, and discoloration of packaging material).
   d. Check also that shipment does not exceed possession limits.

7. 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., dpm/100 sq. cm., etc.). Check wipes with a well counter/scintillation detector or thin end window GM survey meter, and take precautions against the spread of contamination as necessary. The acceptable level of removable contamination will be 200 dpm/100 sq. cm above background. The procedure will be stopped and the radiation safety officer notified if this level is exceeded.
8. Monitor the packing material and packages for contamination before discarding. If contaminated, treat as radioactive waste. If not contaminated, radiation labels will be obliterated before discarding in regular trash.

Note, package containing quantities of radioactive material in excess of Type A quantity limits specified in 10 CFR 20.205(b) will be monitored for external radiation levels and surface contamination within 3 hours after receipt if received during working hours or within 18 hours if received after working hours.

Records will be mairtained of the results of checking each package (see following sample).

RADIOACTIVE SHIPMENT RECEIPT REPORT

1. P. O. #_____ (if applicable) Survey Date _____ Time _____

Surveyor _____

2. CONDITION OF PACKAGE:

_____O. K. _____Punctured _____Status _____Wet

_____Crushed _____Other

RADIOACTIVE MATERIAL PACKAGES LABEL CRITERIA

(172.403)

DOSE RATE LIMITS

LABEL	AT ANY POINT ON ACCESSIBLE SURFACE OF PACKAGE	AT THREE FEET FROM EXTERNAL SURFACE OF PACKAGE (TRANSPORT INDEX)
"RADIOACTIVE-WHITE I"	0.5mR/hr	0
"RADIOACTIVE-YELLOW II"	50 mR/hr	1.0 mR/hr
"RADIOACTIVE-YELLOW III"	200 mR/hr	10 mR/hr

3. Radiation Label number _____

4. MEASURED RADIATION LEVELS:

a) Bkg = _____mRem/hr.

b) Package surface _____mRem/hr.

c) 3 feet or 1 meter from surface _____mRem/hr.

5. Notification to the NRC or Agreement state is voluntary if mR/hr levels exceed those indicated for applicable Labels I & II. Notification of the RSO, health physics consultant, carrier, and NRC/ Agreement state is mandatory if levels of exposure exceed either 10mR/hr at three feet or 200mR at the surface of the package.

6. DO PACKING SLIP AND VIAL CONTENTS AGREE?

a. Radionuclide _____yes _____no, difference _____

b. Amount _____yes _____no, difference _____

c. Chem form _____yes _____no, difference _____

(Rev. 3, January 1984)

7. WIPE RESULTS

a. Bkg _____CPM (Eff.= ____%) -> CPM x $\frac{100}{\text{eff.}}$ = _____bkg. DPM

b. Outer _____CPM (Eff.=____%) -> CPM x $\frac{100}{\text{eff.}}$ = _____ DPM

c. Final source container _____CPM (Eff.= ____%)

-> CPM X $\frac{100}{\text{eff.}}$ = _____DPM

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

9. DISPOSITION OF PACKAGE AFTER INSPECTION_____

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

_____

PROCEDURES FOR ORDERING AND RECEIVING RADIOACTIVE MATERIALS

1. The RSO or a designate must authorize each order for radioactive materials.

2. The supervising technologist or his designee will place all orders for radioactive material, and will ensure that the requested materials and quantities are authorized by the license and that possession limits are not exceeded.

3. During normal working hours, carriers will be instructed to deliver packages containing radioactive material directly to the Therapy Department.

4. During off duty hours security personnel will accept delivery of radioactive packages in accordance with the procedures outlined in the enclosed memorandum.

5. A system for ordering and receiving radioactive materials will be established and maintained. The system will consist minimally of the following:

   A. Ordering of routinely used materials

      1. Written records that identify the isotope, compound, activity levels, supplier, etc., will be used.
      2. The written records will be referenced when opening or storing radioactive shipments.

   B. Ordering of specially used materials (e.g., therapeutic uses)

      1. A written request* will be obtained from the physician who will perform the procedure.
      2. Persons ordering the materials will reference the physician's written request when placing the order. The physician's request will indicate isotope, compound, activity level, etc.
      3. The physician's written request will be referenced when receiving, opening, or storing radioactive material.

   C. It is essential that written records* be maintained for all ordering and receipt procedures.

* In the case of special orders, the physician's written request and appropriate shipping/receipt records will be referenced and the dose assayed prior to its administration.

COLUMBIA HOSPITAL FOR WOMEN MEDICAL CENTER

2425 L STREET, NORTHWEST
WASHINGTON, D.C. 20037
(202) 293-6500

February 19, 1988

To: Security Personnel

Subject: Receipt of Packages Containing Radioactive Material

Any packages containing radioactive material that arrive between 4:30 p.m. and 7:00 a.m., or on Saturdays and Sundays, will be signed for by the Security Guard on duty and taken immediately to the locked storage area.

Unlock the door, place the package on the floor in the middle of the room, and relock the door upon leaving.

If the package is wet or appears to be damaged, immediately contact the hospital Radiation Safety Officer and/or the chief technologist of the department.

Ask the carrier to remain at the hospital until it can be determined that neither he nor the delivery vehicle is contaminated.

RADIATION SAFETY OFFICER: _____

OFFICE PHONE: _____

HOME PHONE: _____

CHIEF TECHNOLOGIST: _____

OFFICE PHONE: _____

HOME PHONE: _____

G. Patrick Kane
Administrator

GPK/jpm

Enclosure #7

PERSONNEL TRAINING PROGRAM

The personnel training program will be given to all personnel who work with or in the vicinity of radioactive materials. The training will be in the form of lectures and the duration of each session will depend on the extent of applicability to the employees involved. The training program will be of sufficient scope to ensure that all personnel, including technical, clerical, nursing, housekeeping, and security personnel receive proper instruction in the items specified in applicable 19.12 of 10 CFR Part 19, to include:

A. Areas where radioactive materials are used or stored.

B. Potential hazards associated with radioactive materials.

C. Radiological safety procedures appropriate to their respective duties.

D. Pertinent NRC regulations.

E. Rules and regulations of the licensee.

F. Pertinent terms of the license.

G. Their obligation to report unsafe conditions.

H. Appropriate response to emergencies or unsafe conditions.

I. Their right to be informed of their radiation exposure and bioassay results.

J. Locations where the licensee has posted or made available notices, copies of pertinent regulations, and copies of pertinent licenses and license conditions (including applications and applicable correspondence), as required by 10 CFR Part 19.

<u>In Addition</u>:

Personnel caring for the patient undergoing implant therapy will also be instructed (orally or in writing) as follows:

A. Size and appearance of the brachytherapy sources.

B. Safe handling and shielding in case of a dislodged source.

C. Procedures for patient control.

D. Procedures for visitor control.

E. Procedures for notification of the Radiation Safety Officer if the patient dies or has a medical emergency.

Note: Records of individuals receiving instruction described in A-E above, a description of the instruction, the date of instruction, and the name of the individual who gave the instruction will be maintained for two years.

Personnel will be properly instructed as follows:

A. Before assuming 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 the license.