



University of Pittsburgh

RADIATION SAFETY OFFICE

May 22, 1981

Patricia C. Vacca
Material Licensing Branch
Division of Fuel Cycle and Material Safety
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Reference: Control #07104

Dear Ms. Vacca:

This letter refers to Control 07104, in response to your inquiry of March 31, 1981. You have requested additional information regarding the renewal of our Teletherapy License No. 37-00245-05 which follows.

1. a. The correct mailing address, for item 2 of this license is:

University of Pittsburgh
Radiation Safety Office
A-550 Crabtree Hall
Pittsburgh, Pennsylvania 15261

- b. We have provided a floor plan of Scaife Hall, third floor (see Appendix 1) to assist you in locating the Co-60 teletherapy unit. The unit is in room R335, indicated as the magenta-shaded area in the right portion of the diagram. The space is used by the Joint Radiation Oncology Center Facility and is adjacent and connected to both Scaife Hall of the University of Pittsburgh Medical School, and Presbyterian University Hospital (under same roof). The address best describing entry to the 3rd floor location is: Presbyterian University Hospital, 230 Lothrop Street, Pittsburgh, Pennsylvania, 15213.

2. The manufacturer's name and model number of the room radiation monitor is:

Primalert 10, Model No. 05-433, manufactured by Nuclear Associates, Westbury, N.Y.

The battery back-up unit, which mates with this monitor is:

Primapak, Model No. 05-440, from the same manufacturer.

3. a. Enclosed in Appendix 2 are additional emergency procedures submitted by the facility for transmittal in response to your recommendations.

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REG LIC30
37-00245-05 PDR

ROOM A-550 CRABTREE HALL, PITTSBURGH, PA 15261
COPIES SENT TO OFFICE OF
INSPECTION AND ENFORCEMENT

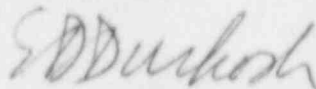
ML10
"OFFICIAL RECORD COPY"

- b. New employees have always, and will continue to be, trained to know emergency procedures.
- c. Review of these procedures will be conducted at least every six months.
- 4. We have included a copy of our University-wide ALARA program submitted in the NRC application for renewal of our Broad By-Product License (37-00245-02). Enclosed in Appendix 3 is a copy of this program for medical institutions. This is our ALARA program which has been in effect since about 11/79. It has been and remains effective, and appears to meet the intent of NRC's requirement. In this program, we list several classes of operations for which action levels are established, including those for teletherapy operations.
- 5. We apologize for sending the C.V. containing the expired Pennsylvania medical license. Enclosed in Appendix 4 is a copy of Dr. Webster's current Pennsylvania Medical Certification.
- 6. In previous correspondences relating to this license, we indicated that the roof of the teletherapy facility had been posted as a radiation area. The details regarding this area were supplied in the June 14, 1977 letter, signed by David G. Blair (Reference Control 86717). We have enclosed a copy of this letter (Appendix 5). It is our understanding that the items of part 5, a through d, are now included in license condition 24.

We have ordered four new 8 x 10" metal signs to replace those described in 5b; the original signs are somewhat weathered.

We hope that this correspondence will provide the information you requested, and that you will be able to complete your evaluation of this license renewal application.

Sincerely,



E. D. Durkosh
Radiation Safety Officer

RKB/cam

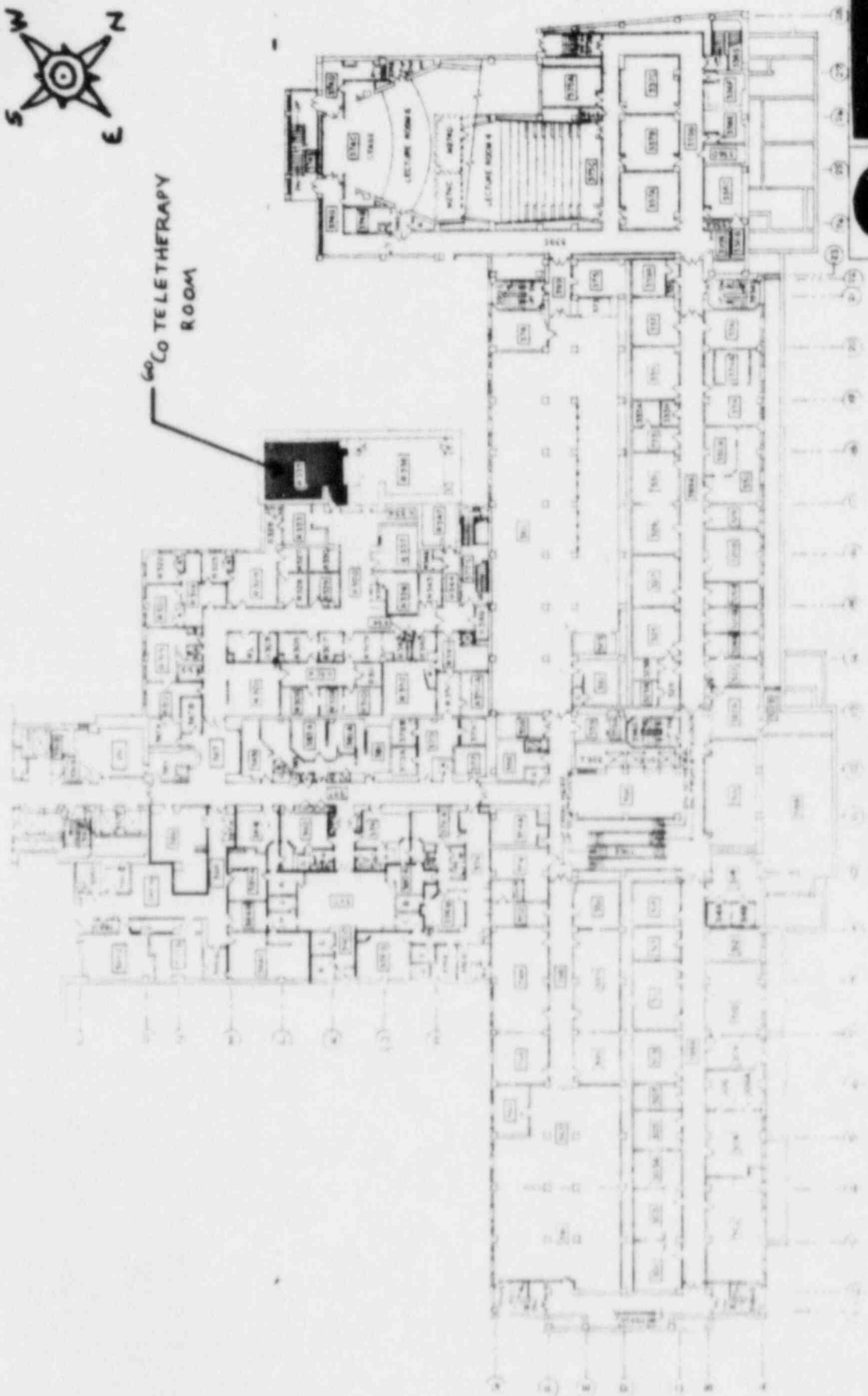
- Enclosures (5):
- 1. Floor diagram, 3rd floor Scaife Hall
 - 2. PUH/JROC emergency procedures
 - 3. University of Pittsburgh ALARA Program
 - 4. Pennsylvania State Medical Certification - Dr. Webster
 - 5. Letter from D. G. Blair, June 14, 1977

APPENDIX 1

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60 CO TELE THERAPY ROOM



THIRD FLOOR PLAN



PHYSICAL PLANT DEPARTMENT
 SCAIFE HALL
 THIRD FLOOR PLAN

472-SA-005-02

EMERGENCY PROCEDURE

IF THE SHUTTER FAILS TO CLOSE

PROCEED AS FOLLOWS:

1. Remove the patient from the treatment room.
2. Avoid contact with the primary beam.
3. The shutter return emergency "T" bar, which is supplied with the unit and located just inside the treatment room, should be placed over the beam condition indicating rod which will be protruding from the head of the unit. Forward pressure on the indicating rod with the "T" bar will push the source drawer backwards and into the "safe" position.
4. If the source can not be pushed back, leave the room immediately.
5. Lock the door to the treatment room and notify Physics immediately.

NOTE:

The amber colored portion of the emergency "T" bar must be entirely inside the front head cover before the source is in the fully "safe" position. This will reduce external radiation fields to normal levels and allow repairs to be made to the source drawer.

The front portion of the "T" bar is painted red and the source can be considered relatively safe if no red marking appears outside the front cover.

EMERGENCY NUMBERS

Ed Zupan (G.E.)	665-3734
A.G. Bukovitz	364-2014 (On Duty 647-3600)
C. Serago	621-2572 (On Duty 647-3600)

APPENDIX 3

Model Program for Maintaining Occupational
Radiation Exposures at Medical Institutions ALARA

1061

University of Pittsburgh
(Licensee's Name)

11/28/79
(Date)

I. Management Commitment

- a. We, the management of this (medical facility, hospital, etc.) are committed to the program described in this paper for keeping exposures (individual and collective) as low as reasonably achievable (ALARA). In accord with this commitment, we hereby establish an administrative organization for radiation safety and develop the necessary written policy procedures and instructions to foster the ALARA concept within our institution. The organization will include a Radiation Safety Committee (RSC)¹, and a Radiation Safety Officer (RSO). We are also committed to following the guidance provided by U.S. Nuclear Regulatory Guides 8.10 and 8.18.
- b. We will perform a formal audit annually to determine how exposures might be lowered. This shall include reviews of operating procedures and past exposure records, inspections, etc., and consultations with the radiation protection staff or outside consultants. A brief summary of the audit will be prepared covering the scope of the review and the conclusions reached.
- c. Modification to operating and maintenance procedures and to equipment and facilities will be made where they will significantly reduce exposures at reasonable costs. We will be able to demonstrate that improvements have been sought, that modifications have been considered, and that they have been implemented where practicable. Where modifications have been considered 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.

¹ Private practice physician licenses do not include a RSC.

II. Radiation Safety Committee (RSC)²

a. Review of Proposed Users and Uses

1. The RSC will thoroughly review the qualifications of each potential authorized user with respect to the types and quantities of materials and uses for which he has applied to assure that the user will be able to take appropriate measures to maintain exposure ALARA.
2. When considering a new use of byproduct material, the RSC will review the efforts of the authorized user to maintain exposure ALARA. The user should have systematized procedures to ensure ALARA, and should have considered the use of special equipment such as syringe shields, rubber gloves, etc., in his proposed use.
3. The RSC will ensure that the user justifies his procedures and that they will result in ALARA doses (individual and collective).

b. Delegation of Authority

(The judicious delegation of RSC authority is essential to the enforcement of an ALARA program.)

1. The RSC will delegate sufficient authority to the RSO 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.

c. Review of ALARA Program

The RSC of our medical facility will perform an annual review of all radiation safety programs. This review will be performed independently of that performed by management.

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

² The RSO on private practice physician licenses will assume the responsibilities of the RSC under Section III.

2. The RSC will review all instances of deviations from the ALARA philosophy. Information in support of the review will normally be supplied by the RSO.
3. The RSC will evaluate our institution's overall efforts for maintaining exposures ALARA. This review will include the efforts of the RSO, authorized users, and workers as well as those of management.

d. Public Statement of Commitment by the RSC to ALARA

All elements of our institution will be informed of the RSC's commitment to the ALARA concept.

1. The RSC will ensure that employees are aware of the RSC's commitment to the ALARA philosophy.
2. The RSC will demonstrate its commitment to the ALARA concept through the methods employed in its review of proposed users and uses.

III. Radiation Safety Officer (RSO)

- a. Periodic Review and Audit of the Radiation Safety Program for Compliance with ALARA Concepts. (This is the key element in any ALARA program.) Frequent reviews of procedures will be conducted.
 1. The RSO will review and audit, on a regular basis (at least annually), the effectiveness of his own radiation protection program in maintaining doses (individual and collective) ALARA.
 2. The RSO will review exposures of authorized users and occupational workers to determine that their exposures are ALARA.
 3. The RSO will review radiation levels in unrestricted and restricted areas and releases of effluents to unrestricted areas to determine that they are at ALARA level.
- b. The RSO's 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, occupational workers and ancillary personnel understand the ALARA philosophy and know that management, the RSC, and the RSO are committed to implementing the ALARA concept.

c. Cooperative Efforts for Development of ALARA Procedures

Individuals who must work with ALARA concepts will be given opportunities to participate in formulation of the procedures that they will be required to follow.

1. The RSO will maintain 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 encouraging, receiving, and evaluating the suggestions of individual workers for improving health physics practices.

d. Reporting and Reviewing Instances of Deviation from Good ALARA Practices

1. The RSO will investigate all instances of deviation from good ALARA practices; and, if possible, determine the causes. When the cause is known, the RSO will propose changes in the program to maintain exposures ALARA.
2. The RSO will report all significant instances of deviation from ALARA concepts to the RSC for review.

IV. Authorized Users

a. New Procedures Involving Potential Radiation Exposures

1. The authorized user will consult the RSO and RSC before using radioactive materials for a new procedure.
2. The authorized user will consider all procedures thoroughly before using radioactive materials 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 thoroughly explain the ALARA concept and his commitment to maintain exposures ALARA to all of those he supervises.
2. The authorized user will ensure that his occupational workers are trained and educated in good health physics practices and in maintaining exposures ALARA.

3. The authorized user will be responsible to the radiation safety concerns of the individuals that he supervises.

c. Continuing Review of ALARA Concepts by the Authorized User

1. The authorized user will continuously review his procedures to ensure that his ALARA program is optimal.
2. The authorized user will maintain contact with the RSO to ensure that he is aware of and employs the most current methods to maintain exposures ALARA.

V. Occupational Worker

a. What the Occupational Worker Must Consider about ALARA

1. The worker will implement ALARA procedures developed by the authorized user and the RSO.
2. The occupational worker will know what recourses are available if he feels that ALARA is not being promoted on the job.
3. The occupational worker will understand that ALARA concept and will review his own working conditions and those of his fellow workers for the implementation of ALARA principles.

VI. Establishment of Action Levels in Order to Achieve Reductions in Individual Occupational Exposures

This institution (or private practice) hereby establishes exposure action levels for specific kinds or classes of operations which, when exceeded, will trigger investigation by the Radiation Safety Committee and/or the Radiation Safety Officer. The exposure action levels that we have established are listed in Section VII below. These levels apply to the exposure of individual workers. The exact levels have been determined based on our institution's radiation exposure history and a thorough analysis of our current program. We will maintain on file at our institution an account of the considerations used in establishing action levels.

Written justification is appended to this program for any exposure action levels that exceed 10% of MPD (10 CFR 20.201). This justification includes details of the past exposure history at this institution for the particular kind or class of operation, a summary of efforts taken to reduce this exposure, and an explanation of why further dose reductions are not feasible.

We will investigate the causes of personnel exposures that exceed our established exposure action levels. In the event of a personnel exposure that exceeds our established action levels or 10% of MPD, whichever is higher, we will maintain accounts of our investigation for inspection by the NRC. As a minimum, these accounts will include the cause of the exposure, the action taken to correct the situation and the follow-up action taken.

VII. Action Levels

(List the kinds or classes of operations at your institution that generate personnel exposure together with the associated exposure action levels that you have established. Be certain to include written justification for levels that exceed 10% of MPD. Include in your justification details of the past exposure history at your institution (or private practice) for the particular kind or class of operations, a summary of the efforts taken to reduce this exposure, and an explanation of why further dose reductions are not feasible. You may wish to identify such items as cost/benefit analysis and the possible increases in collective dose (man rem) as a result of proposed actions.)

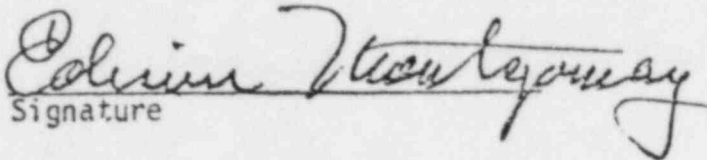
The specific action levels established by this institution (or private practice), are as follows:

<u>Kind or Class of Operation</u> ³	<u>Action Level</u>
1. Diagnostic & Therapeutic	
Nuclear Medicine	10%
2. Brachy Therapy	10%
3. Radiopharmacy	10%
4. Isotope Teletherapy	10%
5. Health Physics	10%

³ Examples of kinds or classes of operations are: diagnostic nuclear medicine, Radioimmunoassay procedures, teletherapy, etc.

VIII Signature of Certifying Official⁴

I hereby certify that this institution (or private practice), is committed to the ALARA Program set forth above.


Signature

Edison Montgomery
Name (print or type)

Acting Vice Chancellor-Health Sciences
Title

Institution (or Private Practice) Name and Address:

⁴ The individual who is authorized to make commitments for the administration of the institution (e.g., hospital administrator, etc.) or, in the case of a private practice, the licensed physician.

NOT VALID UNTIL ACCEPTANCE OF YOUR FEE
DISPLAY THIS CERTIFICATE PROMINENTLY

COMMONWEALTH of PENNSYLVANIA
DEPARTMENT of STATE
BUREAU OF PROFESSIONAL AND OCCUPATIONAL AFFAIRS

CLASSIFICATION
MEDICAL PHYSICIAN & SURGEON

CERTIFICATE NUMBER
MD-338599-L

ISSUED
DEC 29 1980

EXPIRES
DEC 31 1982

ISSUED TO
JOHN HAMILTON WEBSTER
302 BANK STREET
SEWICKLEY PA 15143

[Signature]

DO NOT ALTER THIS AGENCY OR IT CHANGES WITHIN 10 DAYS

APPENDIX 5