



THE UNIVERSITY OF KANSAS

Department of Diagnostic Radiology
College of Health Sciences and Hospital
39th and Rainbow Blvd., Kansas City, Kansas 66103
(913) 588-6800

March 1, 1982

ARCH W. TEMPLETON, M.D., CHAIRMAN

Nuclear Regulatory Commission

RE: Rodney C. Hartman, M.D.
6009 Chestnut, R. R. #3,
Sedalia, Missouri 66530

Dear Sirs:

Rodney C. Hartman, M.D. was a resident in the Department of Diagnostic Radiology at the University of Kansas Medical Center from July 1, 1977 through June 30, 1981. During this time he spent the months of September 1977, November 1978, September 1979, and April and August of 1980 assigned full-time to the Division of Nuclear Medicine.

As a result of the above rotations in Nuclear Medicine, Dr. Hartman received approximately 800 hours of closely supervised clinical experience in Nuclear Medicine techniques. The actual number of radioisotope procedures, both diagnostic and therapeutic, which Dr. Hartman directly supervised are listed in the statement of "Clinical Training and Experience of Physician", NRC Form 313M-Supplement B.

In addition to this documented clinical experience, Dr. Hartman participated in weekly Nuclear Medicine Seminars presented by the Nuclear Medicine Faculty in a formal, classroom setting, one-hour, twice monthly for nine months for four years (72-hours total) and in supervised didactic Resident Seminars twice monthly during the academic year (72-hours). Dr. Hartman also satisfactorily completed a course in Radiological Physics and Radiological Protection taught by the Department Radiation Physicist of 80 classroom hours.

The above training was received under the Kansas Agreement License No. 18-CO54-02. The lecture material in the Nuclear Medicine Seminars, Resident Seminars and Radiological Physics course taught within the Department of Diagnostic Radiology during the time that Dr. Hartman was enrolled as a Resident

8506030691 850503
REG3 LIC30
15-24485-01 PDR

DIAGNOSTIC ROENTGENOLOGY

C.H. Joseph Chang, M.D., Ph.D.
Errol Levine, M.D., Ph.D.
Norman L. Martin, M.D.
Kyo Rak Lee, M.D.
Solomon Batnitsky, M.D.
Arthur A. De Smet, M.D.
Stanton J. Rosenthal, M.D.
Hilton I. Price, M.D.
William P. Smith, M.D.
Joy A. Johnson, M.D.
Nancy A. Kirschner, M.D.

NUCLEAR MEDICINE

Ralph G. Robinson, M.D.
David F. Preston, M.D.
Norman L. Martin, M.D.
Audrey V. Wegst, Ph.D.
Ronald E. Weiner, Ph.D.
Jay Spicer, M.S.

**DIAGNOSTIC IMAGING AND
RADIOLOGICAL SCIENCE**

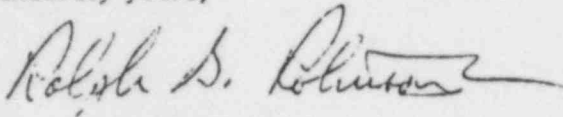
Samuel J. Dwyer III, Ph.D.
Steven L. Fritz, Ph.D.
Larry T. Cook, Ph.D.
James E. Gorn, Ph.D.
P. Nong Cook, Ph.D.
William H. Anderson, M.S.
Mark A. Tartton, B.S.
Kenneth S. Henstley, M.S.
Denny Betz

Nuclear Regulatory Commission
3/1/82
Page 2

exceeds the requirements for licensure listed for Groups I, II or II, Section 35.100 of 10CFR, Part 35. He also had in excess of 500 hours of supervised clinical training (800 hours total) in our institutional Nuclear Medicine Program, currently approved for Resident Training in Diagnostic Radiology, Nuclear Radiology and Nuclear Medicine.

Dr. Hartman therefore has training that exceeds the minimum requirements for licensure for the Medical Use of Byproduct Groups I-V.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Ralph G. Robinson", followed by a horizontal line.

Ralph G. Robinson, M.D.
Professor of Diagnostic Radiology
Head, Division of Nuclear Medicine

RGR/p

Question # 3A.

Close out survey, Holt Summit Office.....

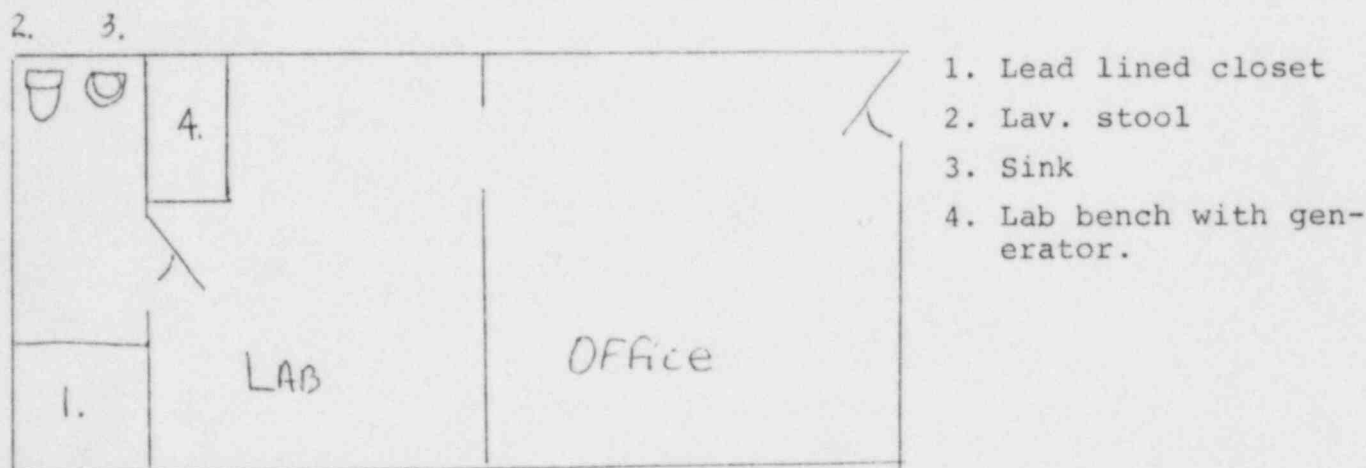
May 28, 1981

Survey Performed by DEL ROBERTS, CMMT,

Close out survey of office/lab at Rt3 Box 80, Karen Drive
Holt Summit, Missouri 65043. To be moved to new approved
site at Good Time Country Warehouse, Compartment #2, RR4,
Hwy 163 & 63, Columbia, Missouri as per letter amendment
request dated April 24, 1981.

Survey meter used - Eberline E-120 low level survey meter
0-50 mr/hr. (calibrated February 1981)

Picker Spectrscaler II A well system - at local hospital,
Charles Still Hospital, Jefferson City, MO.



Survey Meter Readings:

Background All Areas - Less than 0.05 mr/hr

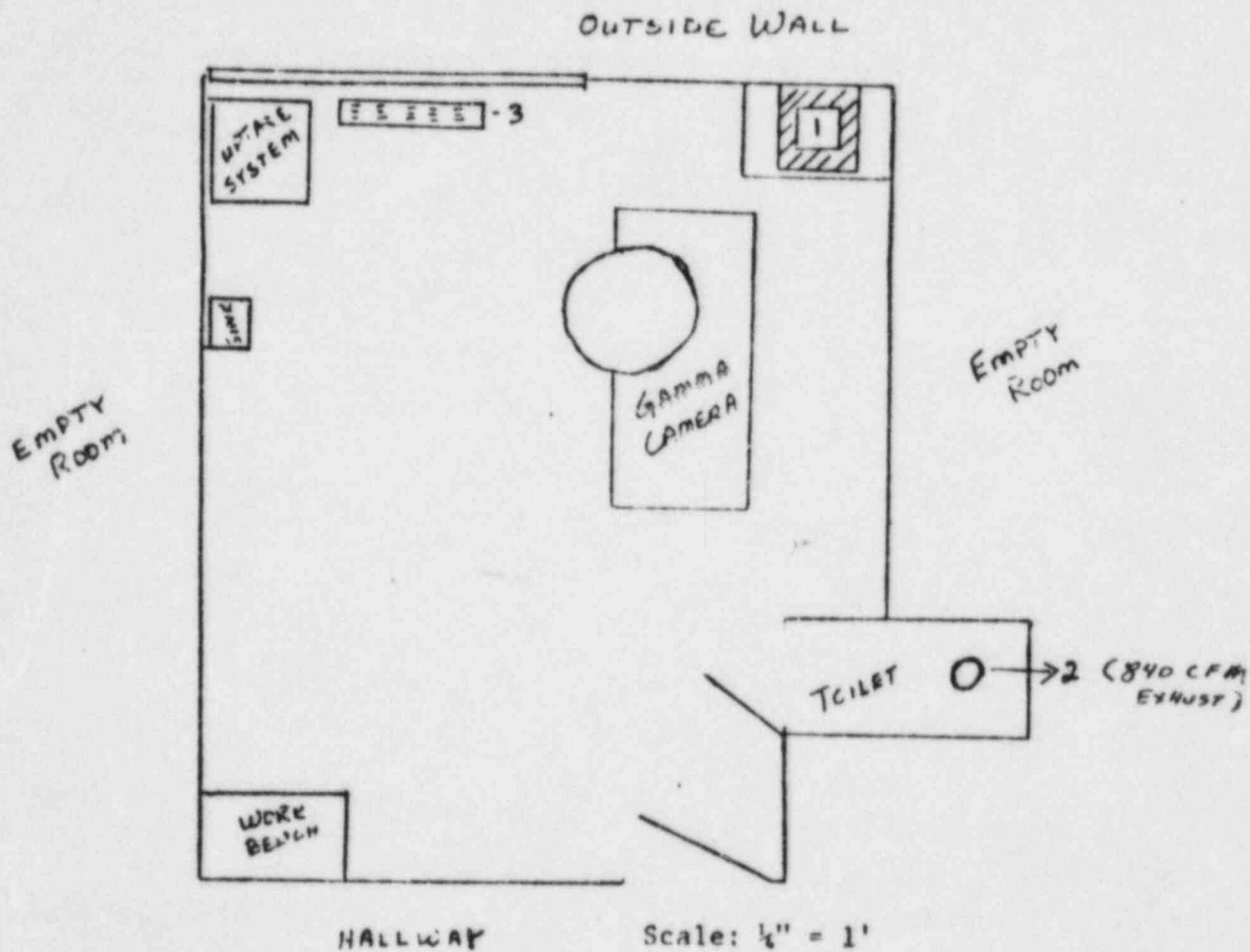
1. Less than 0.05 mr/hr
2. Less than 0.05 mr/hr
3. Less than 0.05 mr/hr
4. Less than 0.05 mr/hr

Wipe test - Background 135 cpm.

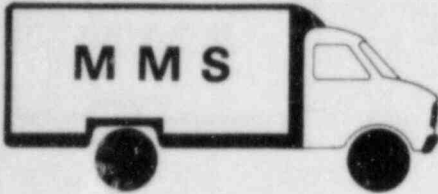
1. Floor - 148 cpm
3. Sink - 119 cpm
4. Bench top - 151 cpm

Question # 5c.

Carroll County Mem. Hosp.



1. 2" lead brick safe
2. Exhaust - 840 CFM
3. Air Coil fan unit



MOBILE MEDICAL SERVICES

Specializing in Diagnostic Ultrasound and

Nuclear Medicine Procedures

RT. 3, BOX 80, KAREN DRIVE
HOLTS SUMMIT, MISSOURI 65043

314/896-5242

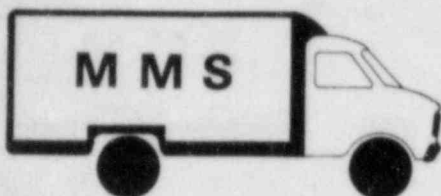
November 28, 1980

I. Management Commitment

- a. We, the management of Mobile Medical Services are committed to the program described in this paper for keeping exposures (individual and collective) as low as reasonably achievable. To achieve the concept set forth under the (ALARA) program, the policies setting standards and governing body are described herein.
- b. We will perform a formal annual review of the radiation safety program including ALARA recommendations. This shall include reviews of operating procedures and past exposure records, inspections, etc., and consultations with the Radiation Safety Staff which includes the Radiation Safety Medical Officer and Health Physicist Consultant -- who will be described later in detail.
- c. Those modifications needed to improve the ability to implement the ALARA program will be made unless the cost, in our judgement, is prohibitive. We will be prepared to demonstrate improvements made, and show just cause for not implementing modifications thought unreasonable.
- d. The purpose of our adhering to the ALARA concepts is to protect all persons, singly and collectively, by limiting their exposure to the lowest practicable level.

Radiation Safety Staff:

Because of the nature of our mobile nuclear medicine type service it is important to maintain two types of Radiation Safety Officers, which we designate as the "Radiation Safety Staff". This staff is composed of a Nuclear Medicine Physician and Consultant Health Physicist. These individuals will be referred to collectively as the RSS (Radiation Safety Staff). The medical officer will be referred to as the RSMO (Radiation Safety Medical Officer). The Health Physicist Officer will be referred to as the RSPC (Radiation Safety Physicist Officer).



MOBILE MEDICAL SERVICES

Specializing in Diagnostic Ultrasound and

Nuclear Medicine Procedures

RT. 3, BOX 80, KAREN DRIVE

HOLTS SUMMIT, MISSOURI 65043

314/896-5242

II. Radiation Safety Staff (RSMO and RSPO)

a. Review of Proposed Users and Uses

1. The RSMO will review the qualifications of each applicant with respect to the types and quantities of materials and uses for which is applied to assure that appropriate measures are maintained to continue exposure ALARA.
2. When considering a new use of byproduct material, the RSMO will review the procedure to maintain exposure ALARA. The user will be guided by procedures to ensure ALARA, which incorporates the use of syringe shields, rubber gloves, etc. in the proposed use.
3. The RSMO will ensure that each user justifies their procedures and that the dose will be ALARA.

b. Delegation of Authority

1. The RSMO has full and final authority in the enforcement of the ALARA concept.
2. The RSPO will support and recommend procedures to carry out this concept in an advisory capacity. It is recognized that the RSPO (health physicist) is closer to many of the changing health safety procedures relative to equipment and new byproduct uses.

c. Review of the ALARA Program

1. The RSS will encourage all users to review current procedures and develop new procedures to implement the ALARA concept.
2. The RSPO will perform quarterly review of occupational radiation exposure with attention to instances where Investigational Levels in Table I 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 report to the RSMO for action, if warranted, when Investigational Levels are exceeded.
3. The RSS will evaluate our companies overall efforts for maintaining exposures ALARA on an annual basis. This review will include all authorized users, and workers as well as those of management.



MOBILE MEDICAL SERVICES

Specializing in Diagnostic Ultrasound and

Nuclear Medicine Procedures

RT. 3, BOX 80, KAREN DRIVE

HOLTS SUMMIT, MISSOURI 65043

314/896-5242

III. Radiation Safety Staff Officers (RSS)

a. Annual and Quarterly Review

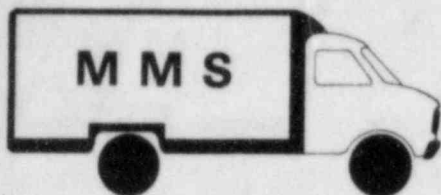
1. Annual review of the Radiation Safety Program. The RSMO will perform an annual review of the Radiation Safety Program for adherence to ALARA concepts.
2. Quarterly review of Occupational Exposure. The RSPO will review quarterly the external radiation exposures of authorized users and workers to determine that their exposures are ALARA in accordance with the provisions of paragraph VI of this program.
3. Quarterly review of records of Radiation Level Surveys. The RSPO will review radiation levels in unrestricted and restricted areas to determine that they were at ALARA levels during the previous quarter.

b. Education Responsibilities for the ALARA Program

1. The company management will inform users and workers of the ALARA program efforts.

c. Cooperative Efforts for Development of ALARA Procedures

1. The RSPO and management will be in close contact with all users and workers in order to develop ALARA procedures for working with radioactive materials.
2. The management will rely on ideas and recommendations from the RSPO (health physicist) because of their education expertise and their ability to draw from ideas from other similar programs they're exposed to.
3. The RSPO will recommend changes in the ALARA program if a breakdown of good safety practices occurs. It will be the responsibility of management to correct the problem and report to the RSPO when the correction has been made.



MOBILE MEDICAL SERVICES

*Specializing in Diagnostic Ultrasound and
Nuclear Medicine Procedures*

RT. 3, BOX 80, KAREN DRIVE
HOLTS SUMMIT, MISSOURI 65043

314/896-5242

IV. Authorized Users

a. New Procedures Involving Potential Radiation Exposures

1. The authorized user will consult with and receive approval of, the RSS during the planning stage before using radioactive materials for a new procedure. This will be implemented through management -- because of the makeup of a mobile service, and its multiple users, all procedures are offered through management. There is continual contact between management and the users.

b. Responsibility of the Authorized User

1. The authorized user or (Mobile Service Management, the RSMO) will explain the ALARA concept and our commitment to maintain exposures ALARA to all those they supervise.
2. The authorized users will ensure that those under their supervision who are subject to occupational radiation exposure are trained and educated in good health physics practices and in maintaining exposures ALARA.

V. Persons Who Receive Occupational Radiation Exposure

- 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 or she feels that ALARA is not being promoted on the job.

VI. Establishment of Investigational Levels In Order to Monitor Individual Occupational External Radiation Exposures

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



MOBILE MEDICAL SERVICES

Specializing in Diagnostic Ultrasound and

Nuclear Medicine Procedures

RT. 3, BOX 80, KAREN DRIVE

HOLTS SUMMIT, MISSOURI 65043

314/896-5242

Table 1

Investigational Levels-
(mrems per calendar quarter)

	<u>LEVEL I</u>	<u>LEVEL II</u>
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 (applicable to beta emitting isotopes)	750	2250

The Radiation Safety Physician will review the dosimeter processor's report of occupational external radiation exposure, 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 RSMO, no further action will be taken when an individual's exposure is less than Table 1 values for Level I.

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

The RSPO will review the exposure of each individual whose quarterly exposures equal or exceed Investigational Level I. He will report the results of his reviews to the RSMO (Radiation Safety Medical Officer) following the quarter 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 RSS (Radiation Safety Staff). The RSS 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.

- c. Exposure equal to or greater than Investigational Level II.

The RSPO 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, action taken, if any, will be given to the RSMO following the investigation. The investigation and action taken will be made available to NRC inspectors for review at the time of the next inspection.



MOBILE MEDICAL SERVICES

Specializing in Diagnostic Ultrasound and

Nuclear Medicine Procedures

RT. 3, BOX 80, KAREN DRIVE
HOLTS SUMMIT, MISSOURI 65043

314/896-5242

VII. Signature of Certifying Official

I hereby certify that this Mobile Medical Service has implemented the ALARA Program set forth above.

A handwritten signature in cursive script, appearing to read 'W H Voss' followed by a large, stylized 'O' or 'D'.

Signature

William H. Voss, D.O.
Radiation Safety Officer

A handwritten signature in cursive script, appearing to read 'Delbert L. Roberts'.

Signature

Delbert L. Roberts, C.N.M.T.
Mobile Medical Services, Management