

**1. Keywords**

**DOSIMETRY RECORD  
GAMMA THERAPY  
HUMAN USE RADIOISOTOPE  
NON-LICENSED RADIOISOTOPE  
NRC LICENSED RADIOISOTOPE  
RADIATION PROTECTION 1604**

**2. Start Date: FY 70 Quarter 4  
End Date: FY 71 Quarter 1**

**3. HQ Division: 43 - HEALTH PHYSICS DIVISION**

**4. Phase:**

**5. Program NO:**

**6. Survey Type: RS - INDUSTRIAL RADIATION SURVEY**

**7. INSTALLATION OR SOURCE OF INFORMATION (CITY & STATE OR  
COUNTY ARE ESSENTIAL)  
HS - USA HEALTH SERVICES COMMAND**

**8. Authors:**

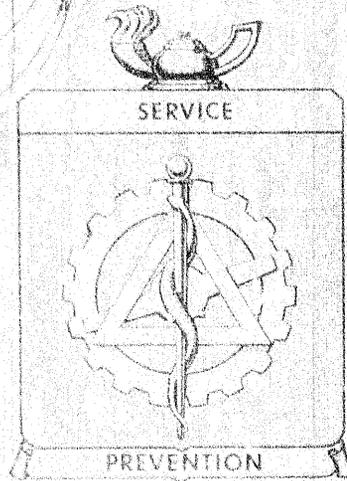
**9. ARLOC/Activity: 11933 001 - WALTER REED AMC  
Location: WASHINGTON  
State: DC**

**10. Project Control Number: 43-073-70**

**11. Title: RADIATION PROT STUDY**

**12. DSA: 61**

RADIATION PROTECTION SURVEY NO. 43-073-70  
IONIZING RADIATION SOURCES  
WALTER REED ARMY MEDICAL CENTER  
WASHINGTON, D. C. 20012  
6 - 14 MAY 1970



US ARMY  
ENVIRONMENTAL HYGIENE AGENCY  
EDGEWOOD ARSENAL, MD. 21010

46



USA/EHA-RH

DEPARTMENT OF THE ARMY  
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY  
EDGEWOOD ARSENAL, MARYLAND 21010

22 JUN 1970

RADIATION PROTECTION SURVEY NO. 43-073-70  
IONIZING RADIATION SOURCES  
WALTER REED ARMY MEDICAL CENTER  
WASHINGTON, D. C. 20012  
6 - 14 MAY 1970

ABSTRACT

A review of the overall radiation protection program for Walter Reed Army Medical Center indicated that, in general, adequate procedures had been established for the safe use of ionizing radiation sources and an effective program was being implemented. However, there was a need for command emphasis to be placed upon establishing effective procedures to insure the proper maintenance and disposition of personnel dosimetry records. There was also a need to review and revise the Table(s) of Distribution (TD) to insure that the radioisotope clinic enlisted technicians are properly identified and reported.



DEPARTMENT OF THE ARMY  
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY  
EDGEWOOD ARSENAL, MARYLAND 21010

USAEHA-RH

22 JUN 1970

RADIATION PROTECTION SURVEY NO. 43-073-70  
IONIZING RADIATION SOURCES  
WALTER REED ARMY MEDICAL CENTER  
WASHINGTON, D. C. 20012  
6 - 14 MAY 1970

1. REFERENCES.

- a. Letter, USAEHA-RH, this Agency, subject: Radiation Protection Survey (RA,RH), Walter Reed Army Medical Center, 23 April 1970.
- b. AR 40-5, Preventive Medicine, 13 March 1969.
- c. AR 40-14, Control and Recording Procedures Occupational Exposure to Ionizing Radiation, 29 September 1966.
- d. AR 40-37, Radioisotope License Program (Human Use), 12 August 1963.
- e. AR 700-52, Licensing and Control of Sources of Ionizing Radiation, 22 May 1968.

2. PURPOSE. The survey was made to determine the presence and extent of any health hazards resulting from the use of ionizing radiation sources at Walter Reed Army Medical Center (WRAMC). Further, it was made to evaluate the adequacy of the overall radiation protection program established for conformance with current directives and standards for radiation protection with special emphasis on the radioisotopes in human use activities.

3. GENERAL

- a. Entrance and exit briefings were held with MAJ William F. Kendall, Health Physics Officer, WRAMC. The exit briefing included a discussion of the findings and recommendations made during the survey.
- b. The most recent evaluation of the overall radiation protection program at Walter Reed Army Medical Center was conducted in conjunction with the Annual General Inspection, FY 1969, during the period 5-14 May 1969.

#### 4. FINDINGS

##### a. Overall Radiation Protection Program

(1) Walter Reed Army Medical Center possessed a specific Atomic Energy Commission (AEC) License of Broad Scope and several other AEC Licenses of Limited Scope as well as a DA Radioactive Material Authorization of Broad Scope. These licenses and authorization permitted the use of radioactive materials at various locations for organizations and activities assigned to or located at Walter Reed Army Medical Center. The use of these materials was controlled by the WRAMC Radioisotope Committee.

(2) A Radioisotope Committee had been appointed to review proposals for the use of ionizing radiation sources and to make recommendations for the Commander concerning the protective measures to be taken. Membership consisted of the Commanding General, WRAMC, as Chairman, all of the personnel required by paragraph 3d, AR 40-37, and several additional personnel knowledgeable in the use of various types of ionizing radiation sources. A subcommittee for human use and a subcommittee for nonhuman use had been appointed to act upon routine proposals to use radioactive materials.

(3) MAJ William F. Kendall, the WRAMC Health Physics Officer, was the principal staff officer responsible for surveillance and implementation of radiation protection procedures established for the control of health hazards associated with the use of ionizing radiation sources as well as microwave and laser sources. The WRAMC Health Physics activity was so organized as to provide adequate and continuous support to the major organizations using radiation sources to include:

- (a) Walter Reed General Hospital (WRGH)
- (b) Walter Reed Army Institute of Research (WRAIR)
- (c) Armed Forces Institute of Pathology (AFIP)
- (d) Army Medical Research Unit (AMRU), Fort Detrick
- (e) Walter Reed Research Reactor Facility, WRAIR
- (f) Harry Diamond Laboratories Reactor, Forest Glen Annex
- (g) Other activities under the WRAMC MEDDAC

(4) WRAMC Regulation 40-10, Health Physics, established the procedures for the safe use of ionizing radiation sources, whereas various Health Physics standing operating procedures (SOP's) were provided for the implementation of pertinent directives and standards for radiation protection. A review of available records and reports and visits made to some of the areas where radiation sources were used indicated that, in general, an effective radiation protection program was being implemented.

(5) In addition to the routine health physics support, the WRAMC Health Physics activity provided several training programs for principal users and technicians in the health physics aspects associated with the use of radioactive materials.

b. Personnel Dosimetry Program

(1) Film badge service for all personnel located at Walter Reed Army Medical Center was handled by WRAMC Health Physics. Approximately 800 personnel had been issued film badges.

(2) DD Forms 1141, Record of Occupational Exposure to Ionizing Radiation, were being maintained separately from the health records by the WRAMC Health Physics Officer. Review of selected records indicated that they were not being satisfactorily maintained in that:

- (a) They were not currently posted
- (b) There were many posting errors
- (c) Some records of individuals who had been transferred several months ago (both military and civilian) were still on hand.
- (d) Locator sheets had not been placed in the medical records of some individuals.

c. Radioisotopes in Human Use Activities. Radioisotope Committee Records. Review of the Radioisotope Committee records indicated that:

(1) The committee met at periodic intervals to discuss major issues and to review actions taken by the subcommittees.

(2) The reports, Radioisotopes in Human Use Activities, RCS MED-197, were being prepared and submitted in accordance with the provisions of paragraph 4a, AR 40-57.

(3) Some of the authorizations for individuals to use radioactive materials did not specify all of the procedures to be used with each individual radioisotope. Instead, only the word "diagnostic" was used to describe the authorized procedure.

(4) A copy of the users' certification to use radioisotopes had been placed in the appropriate 201 files of the individuals concerned as required by paragraph 3d(2), AR 40-37.

d. Radioisotope Clinic, Nuclear Medicine Service, WRGH

(1) Radioisotope Clinic consisted of the following:

LTC Alfred E. Jones, Chief  
One Civilian Radioisotope Technician Supervisor  
One Civilian Radioisotope Technician  
One Senior Enlisted Radioisotope Technician  
Four Enlisted Radioisotope Technician  
Two Civilian Secretaries

Residents - All radiology residents and some medical residents rotate through the clinic for a period of 3 months. All endocrinology residents spend approximately 2 days per week in the clinic.

(2) A Radiopharmacy Section had been recently established as a part of Nuclear Medicine Service. This section which was physically located in the Radioisotope Clinic was operated by MAJ George L. Dunson, Radiopharmacist, who is currently assigned to Health Physics, WRAMC. The functions of this section under the supervision of the Chief, Nuclear Medicine Service, WRGH, is to compound, assay, and test radiopharmaceuticals not readily available commercially.

(3) It was reported that the enlisted radioisotope technicians' military occupational specialty (MOS) designation on the TD had been changed from OOD (Special Duty Position) to 92B (Medical Laboratory Technician). This condition may soon lead to problems in assignment and reassignment of qualified enlisted personnel to fill positions which require special qualifications in clinical radioisotope handling techniques. Since there is no current MOS for Radioisotope Technicians, the use of the special duty position designation on the organization's TD is the only effective means by which proper assignments can be made for such personnel.

(4) Review of the radioisotopes receipt and dispensing records indicated that they were being used in accordance with the procedures prescribed by the conditions of the license. Radioisotope inventory records were being maintained on DA Form 8-212 (Narcotic and Controlled Drug Record) as well as locally produced forms with a separate form for each lot number of a specific radiopharmaceutical. These records were being adequately maintained to show receipt, assay, use, and disposal of the materials.

(5) A survey was made of the areas where radioactive materials were used and stored and the following comments are made with respect to the survey:

(a) All areas surveyed were found to be free of radioactive contamination and stored material was adequately stored and shielded.

(b) Radiation caution signs and labels were properly posted.

(c) It was noted that the Radioisotope Clinic was using many modern types of laboratory counting equipment. Among these was a radiation dose calibrator used in the assay of stock solutions and individual doses of radiopharmaceuticals. This type of equipment permits the clinic personnel to more efficiently prepare and count smaller doses administered to patients, which reduces the radiation exposure to both patients and clinic personnel.

e. Radiation Therapy Clinic

(1) The Radiation Therapy Clinic operates under the direct supervision of the Chief, Radiation Therapy Service, WRGH. A residency program is conducted for Radiation Therapy Residents and Radiological Physics Residents.

(2) Located in this clinic is a Cobalt-60 teletherapy unit, a Strontium-90 eye applicator, several Radium-226 and Cesium-137 sealed gamma ray sources, and two x-ray therapy machines. Health physics support for this service is provided by an enlisted health physics technician assigned to the WRAMC Health Physics activity. Review of the available records and reports indicated that adequate radiation protection procedures had been established and were being followed to assure the safe uses of these sources.

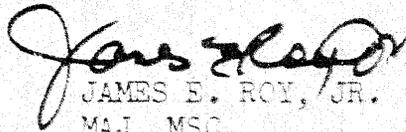
5. RECOMMENDATIONS.

a. The authorizations for human use should be reviewed and revised as necessary to insure that the Radioisotope Committee has certified individual users for each type of procedure with each individual radioisotope as required by paragraph 3d(2), AR 40-37.

b. Effective procedures should be established and periodic surveillance made to insure that personnel dosimetry records are maintained and disposed of in accordance with the provisions of paragraph 7, AR 40-14.

USAEHA-RH Radn Protection Surv No. 43-073-70, WRAMC, Washington, D.C.,  
6-14 May 1970

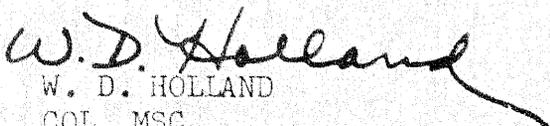
c. The TD of the Nuclear Medicine Service, WRGH should be reviewed and appropriate actions taken to properly identify and report the special requirements for Radioisotope Technicians.



JAMES E. ROY, JR.  
MAJ, MSC  
Chief, Health Physics Division

*Walter W. Piller Cpt MSC*  
for CHARLES E. DAY, III  
CPT, MSC  
Action Officer  
Health Physics Division

APPROVED:



W. D. HOLLAND  
COL, MSC  
Director, Radiation Services

INACTIVE 177

MEDEC-HPO (15 July 1970) 2nd Ind

SUBJECT: Corrective Actions Taken Concerning Radiation Survey No. 43-073-70  
Conducted by USAEHA

Hqs, WRAMC, Washington, D.C. 20012 29 September 1970

TO: TSG, ATTN: MEDPS-PO, DA, Washington, D.C. 20314

With reference to recommendations made in paragraph 5 of subject survey, the following actions have been initiated.

- a. Upon annual review of human use authorizations, procedures have been established to insure that individuals are certified for each type of procedure with each individual radioisotope as required by paragraph 3d(2), AR 40-37.
- b. A staff study is being conducted by WRAMC Health Physics for the purpose of developing effective procedures to insure that personnel dosimetry records are maintained and disposed of in accordance with provisions of paragraph 7, AR 40-14.
- c. The Office of the Comptroller, WRAMC is initiating action to identify the enlisted radioisotope technicians' TD positions as 00D (Special Duty Position).

FOR THE COMMANDER:

*James A. Phillips*  
 JAMES A. PHILLIPS  
 LTC, MSC  
 Adjutant

1 Incl  
wd

MEDPS-PO (15 Jul 70) 3d Ind

DA, OTSG, Washington, D. C., 20314 - 7 October 1970

TO: Commanding Officer, U. S. Army Environmental Hygiene Agency, Edgewood Arsenal, Maryland 21010

*[Signature]*  
 A. P.

WRAMC 70  
 INACTIVE 74

USAEHA-RH

15 JUL 1970

SUBJECT: Radiation Protection Survey No. 43-073-70, Walter Reed Army  
Medical Center, Washington, D. C.

The Surgeon General  
ATTN: MEDPS-P  
Department of the Army  
Washington, D. C. 20314

Inclosed are 10 copies of subject report conducted by this Agency during  
the period 6 - 14 May 1970.

1 Incl  
as (10 copies)

R. G. DANIELS  
Colonel, MG  
Commanding

43-073-70  
**COMPLETED**  
15 Jul 70

DRS-4-18 June 70

MEDPS-PO (15 Jul 70) 1st Ind

JEA/gew

SUBJECT: Radiation Protection Survey No. 43-073-70, Walter Reed Army  
Medical Center, Washington, D. C.

DA, OTSG, Washington, D. C., 20314 - 29 July 1970

TO: Commanding General, Walter Reed Army Medical Center, Washington,  
D. C. 20012

1. Your attention is invited to the abstract on the first page of this report.
2. Concur in the recommendations contained in paragraph 5 of subject survey. Request this office be notified when recommended action has been taken so that our files may be completed. Please advise this office in the event additional assistance is required.
3. A copy of this report should be maintained until replaced by a more recent survey.

FOR THE SURGEON GENERAL:

1 Incl  
nc

  
T. D. BOAZ, JR., M.D.  
Colonel, MC  
Chief, Preventive Medicine Division

CF:  
CO, USAEHA (wo incl)

USAEMA-RH

23 APR 1970

**SUBJECT: Radiation Protection Survey (RA,RH), Walter Reed Army Medical Center**

**Commanding General  
Walter Reed Army Medical Center  
Washington, D. C. 20012**

1. In accordance with the provisions of paragraph 3a(6), AR 40-37, and paragraph 4b, AR 700-52, and with concurrence of The Surgeon General a radiation protection survey of the Walter Reed Army Medical Center has been scheduled for the period 6 - 15 May 1970.
2. The survey will include a review of the personnel dosimetry program, the radiation protection program, and conformance with the provisions of the Atomic Energy Commission Licenses and DA Authorizations for both human use and nonhuman use of radioactive materials.
3. The survey officers will be MAJ James E. Roy, Jr., MSC, SSAN: 262-48-0614, security clearance of Top Secret and CPT Charles E. Day, IXL, MSC, SSAN: 171-34-6427, security clearance of Secret. COL W. D. Holland, MSC, SSAN: 229-05-7406, security clearance of Top Secret will accompany the survey officers on a portion of the survey.
4. Request that an individual familiar with the Walter Reed Army Medical Center radiation protection program contact MAJ Roy (AUTOVON 584-3526) to arrange administrative and technical details of the survey.

FOR THE COMMANDER:

CF:  
TSG, ATTN: MEDPS-P

WILLIAM B. SEARCY  
Captain, MSC  
Adjutant

*WBS*  
*17 Apr*  
*20 Apr 70*

REPORTS AND CORRESPONDENCE

RECORD OF PROCESSING

TITLE OF REPORT	REPORT NUMBER	WRITER
US Walter Reed Army Medical Center	43-073-70	MAJ Roy, CPT Day

INITIAL DRAFT				
DATE	COORDINATION WITH **	INITIALS	CONCUR	NON-CONCUR *

FINAL DRAFT				
DATE	COORDINATION WITH	INITIALS	CONCUR	NON-CONCUR *

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	INITIALS	DATE	
		IN	OUT
FIRST DRAFT			
FINAL DRAFT	<i>J</i>	16 June 70	16 June 70

DATE FINAL REPORT TYPED	16 June 1970
DATE DISPATCHED FROM DIVISION	16 June 1970
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FINAL REPORT			
	INITIALS	DATE	
		IN	OUT
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DIVISION CHIEF	<i>Walter Roy</i>	16 June 70	16 June 70
DIRECTOR	<i>H</i>	18 June 70	18 June 70
COMMANDING OFFICER	<i>H</i>	18 June 70	18 June 70

REMARKS: Use Reverse Side

\* Explain on reverse side

\* Resolve all professional, technical, administrative and policy matters while report is in initial draft stage to minimize repetitive writing and typing.

This report replaces an existing report in Central Files? Yes  No

Small file reference number: