1. Keywords

DENTAL X-RAY EQUIPMENT
DIAGNOSTIC X-RAY EQUIPMENT
FLUOROSCOPIC X-RAY EQUIPMENT
IN VITRO RADIOISOTOPE TEST
MEDICAL X-RAY EQUIPMENT
RADIATION PROTECTION 1604

2. Start Date: FY 83 Quarter 2
End Date: FY 83 Quarter 3

3. HQ Division: 43 - HEALTH PHYSICS DIVISION

4. Phase:

5. Program NO: 28

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: 34558 003 - US ARMY MEDDAC
Location: MONMOUTH FORT
9. ARLOC/Activity: 34558 012 - DENTAL CLINIC
Location: FORT MONMOUTH
State: NJ State: NJ

10. Project Control Number: 43-0705-83

11. Title: HLTH HAZ/IONIZING RAD SCS

12. DSA: 61

HPD

INACTIVE 1985

HSXS-PVM (20 Jun 83) 2d Ind
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

HQ, US Army Medical Department Activities, Fort Monmouth, New Jersey 07703 26 Sep 1983

TO: Commander, US Army Health Services Command, Ft Sam Houston, Texas 78234

Per paragraph 3 of 1st Indorsement of report, dated 15 July 1983, SAB, the following actions have been taken to accomplish the indicated corrective requirements for the X-ray units listed in enclosure 2 of this report.

a. Identifying data: Xonics Radiographic Fluoroscopic Unit with Image Intensification, MMCN: G4450.

(1) Deficiency: The system could not be operated manually in the fluoroscopic mode.

(2) Corrective Action: The broken wire in the cable has been repaired so that the system can be controlled manually.

b. Identifying data: General Electric Radiographic - Fluoroscopic Unit with Image Intensification, MMCN: 4409, Model 46-178400G1.

(1) Deficiency: Maximum fluoroscopic output rate of 10.7 R/min is greater than the allowable standard of 10 R/min.

(2) Corrective Action: The 120 kVp station was disabled and adjustments were made to reduce the maximum fluoroscopic output so it does not exceed 10 R/min for any combination of peak tube potential and tube current.

c. Identifying data: General Electric Mobile Radiographic Unit, GE Control Model 225II, MMCN: G4449.

(1) Deficiency: The radiation output of 1.04 R/100 mAs is below the recommended minimum value.

(2) Corrective Action: A replacement tube has been ordered from the depot.

HSXS-PVM 26 Sep 1983
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

d. Identifying data: SS White, Intra Oral, Model MMCN: G1119.

(1) Deficiency: The kVp was out of calibration and decreased filtration in the beam.

(2) Corrective Action: Extra filtration was placed in the beam and the kVp output was properly calibrated.

FOR THE COMMANDER:

Ilsa E. Acenbrak

ILSA E. ACENBRAK
1LT, MSC
Adjutant

2 Encl
nc

RECORD OF PROCESSING

FOR USE OF THIS FORM SEE USAEHA STYLE MANUAL; THE PROPONENT IS HSE-AT

TITLE OF REPORT/CORRESPONDENCE	(INSTALLATION)	CONTROL NO.
RADN PROT SURV	MEDDAC/DENTAC, FT MONMOUTH, NJ	28-43-0705-83

STUDY/SURVEY DATES: FROM	TO	WRITER	DIV
14-16 Mar 83		CPT WARD	HPD

DATE IN	DATE OUT		SIGNATURE	COMMENTS [1]
	30 Mar 83	HANDWRITTEN DRAFT COMPLETED:	D. L. Ward	Team returned to AEHA 21 Mar 83
		COORDINATION: [2] (BRANCH CHIEF)		
30 Mar	4 Apr	DIVISION CHIEF	C. Gibson	DRAFT (B)
4/5	4/25	DRAFT REPORT TYPED: WPC ✓ DIV ___	Debbie Way	
26 Apr	26 Apr	REVIEW BY AUTHOR:	P. J. Kovich	
		COORDINATION: [2] (BRANCH CHIEF)		
26 Apr	27 Apr	DIVISION CHIEF	C. Gibson	FINAL (B)
5/4	5/31	REVIEW BY EDITORIAL STAFF:		
		DIVISION COORDINATION		
6/1	6/1	FINAL REPORT TYPED: WPC ✓ DIV ___	J Rush	
	6/6	REVIEW BY AUTHOR:	D. L. Ward	
		COORDINATION: (BRANCH CHIEF)		
	7 June 83	DIVISION CHIEF CONCURRENCE		TRAP - Corrections / DRES. Sig.
	6/16	CORRECTIONS: WPC ✓ DIV ___	Debbie Way	
6/14	6/16	REVIEW BY EDITORIAL STAFF:	D. Keys	
		DIVISION CONSULTATION		
6/17	17 Jun	DIRECTOR CONCURRENCE	W	
17 June		COMMANDER CONCURRENCE		
	17 Jun	DISPATCH TO PRINTER		
		RECEIVED FROM PRINTER		
23 Jun 83		REVIEWED BY PROJECT OFFICER	D. L. Ward	
23 Jun 83		DISPATCH FROM USAEHA	Rusty Elder	

THIS REPORT SUPERSEDES A PREVIOUS REPORT IN CENTRAL FILES. X YES ___ NO

CONTROL NO. 28-43-0243-82 rlk

1. USE REVERSE SIDE IF NEEDED
2. RESOLVE ALL PROFESSIONAL, TECHNICAL, ADMINISTRATIVE, AND POLICY MATTERS WHILE REPORT IS IN INITIAL DRAFT STAGE.

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010

CPT Ward/jr/AUTOVON
584-3502

REPLY TO
ATTENTION OF

HSHB-RH/WP

20 JUN 1983

SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

Commander
US Army Health Services Command
ATTN: HSPA-P
Fort Sam Houston, TX 78234

1. AUTHORITY. Meeting with HSC representatives at USAEHA, 7-8 July 1982.

2. REFERENCES.

a. AR 40-5, Health and Environment, 25 September 1974.

b. AR 40-14, Control and Recording Procedures for Exposure to Ionizing Radiation and Radioactive Materials, 15 March 1982.

c. AR 340-18-6, Maintenance and Disposition of General Personnel Management and Safety Functional Files, 1 December 1982.

d. TB MED 521, Management and Control of Diagnostic X-Ray, Therapeutic X-Ray, and Gamma-Beam Equipment, 15 June 1981.

3. PURPOSE. This survey was performed to determine the presence and extent of any health hazards resulting from the use and storage of ionizing radiation sources at MEDDAC/DENTAC, Fort Monmouth, New Jersey. Further, it was performed to evaluate the overall radiation protection program established for conformance with current directives for radiation protection.

4. GENERAL.

a. This survey was performed in conjunction with the HSC IG General Inspection. This report addresses only the areas which were not included in the General Inspection. The IG findings are classified FOUO and are on file in the HSC IG Office.

b. An exit briefing was conducted with CPT Robert M. Schmidt, RPO, and MAJ John Greenlee, Chief, Preventive Medicine Activity.

c. The most recent survey by this Agency of the overall radiation protection program at MEDDAC/DENTAC, Fort Monmouth, New Jersey, was conducted during the period 17-18 March 1982 (No. 28-43-0243-82).

d. This survey was conducted by CPT Dann C. Ward, MSC, and 2LT Paul R. Hulkovich, MSC, Health Physics Division, this Agency.

e. Biomedical maintenance support was provided through WO2 Williams, Chief, Biomedical Maintenance.

f. Symbols, instrumentation, measurement techniques, an explanation of exposures, and abbreviations are given in Inclosure 1.

5. FINDINGS.

a. General.

(1) CPT Robert M. Schmidt had been designated in writing as the RPO for MEDDAC/DENTAC, Fort Monmouth.

(2) The dosimetry programs for the MEDDAC/DENTAC, Fort Monmouth, were consolidated.

(3) Sources of ionizing radiation consisted of the MEDDAC/DENTAC x-ray units and a small quantity of iodine-125 which was used in the In-Vitro Clinic.

b. Personnel Dosimetry Program.

(1) A total of 35 individuals were included in the film badge program. A review of exposure histories disclosed that all individuals had received less than 10 percent of the applicable whole-body dose equivalent limits within the last calendar year.

(2) All personnel occupationally exposed to ionizing radiation were observed to be using the Army film badge program, with the exception of the personnel in the In-Vitro Clinic. The In-Vitro Clinic personnel were not badged due to the small quantities of radioactive materials used in the laboratory.

c. In-Vitro Clinic, Patterson Army Community Hospital

(1) The only radioactive isotope used in the clinic was iodine-125. Due to the small weekly volume of in-vitro tests performed, all tests were batch run each Wednesday. Health and safety monitoring for iodine-125 contamination was reportedly done at the end of the workday.

(2) Waste disposal procedures consisted of flushing all liquids down the hot sink. Bottles, flasks, and similar items were flushed with large amounts of cold water and monitored for residual contamination. Clean items would have all their radioactive labels defaced and be disposed of as normal laboratory waste. Items with residual contamination would be rewashed until clean.

d. Diagnostic X-Ray Facilities.

(1) During this survey, six medical and four dental units were surveyed for compliance with TB MED 521. Provided as Inclosure 2 to this report is an analysis of each of the surveyed units to include identifying data, output, deficiencies, corrective requirements, and a facility diagram, as applicable.

(2) In addition, 2 dental units which were surveyed on 17-18 March 1982 and which were scheduled for turn-in within 90 days of this survey, were not evaluated. These units are included in Inclosure 2 with appropriate comments.

e. Records, Reports and Surveys.

(1) A Radiation Control Committee was in existence. It had been established for about 1 year and had been meeting quarterly. Minutes of all meetings were on file.

(2) A review of the biomedical maintenance records indicated that the last survey performed by this Agency was on file. Two x-ray machines had been surveyed by a contract Health Physicist since the last visit by members of this Agency. Adequate written reports were being provided by the contract Health Physicist to the maintenance section. A discussion with the Chief, Biomedical Maintenance Section, indicated that the contract Health Physicist had been providing timely and efficient service. Continued use of this contract service appeared to be in the best interests of the hospital.

6. CONCLUSION. A review of the findings indicated that there were no health hazards associated with the use of ionizing radiation sources at MEDDAC/DENTAC, Fort Monmouth, New Jersey. The overall radiation protection program was being conducted in accordance with current directives for radiation protection with exceptions for which the following recommendations are provided.

7. RECOMMENDATIONS.

a. General. None.

b. Personnel Dosimetry Program. None.

c. In Vitro Clinic, Patterson Army Community Hospital. None.

d. Diagnostic X-Ray Facilities. Take necessary action to accomplish the indicated corrective requirements for the x-ray units listed in Inclosure 2 of this report.

e. Records, Reports, and Surveys. None.

FOR THE COMMANDER:

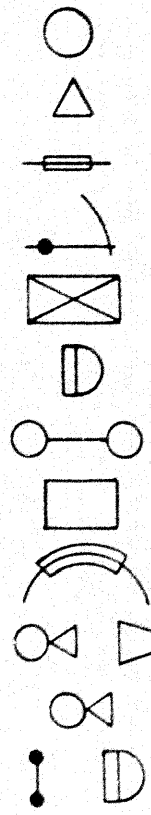
JOSEPH T. WHITLAW, JR
Colonel, MSC
Director, Radiation and Environmental Sciences

2 Incl
as

CF:
HQDA (DASG-PSP) wo incl
Cdr, HSC (HSDS)
Comdt, AHS (HSHA-IPM)
Cdr, WRAMC (PVNTMED Actv)
Cdr, MEDDAC, Ft Monmouth (PVNTMED Actv) (2 cy)
Cdr, DENTAC, Ft Monmouth (2 cy)
C, USAEHA-Rgn Div North

SYMBOLS, INSTRUMENTATION, MEASUREMENT TECHNIQUES, AN EXPLANATION OF EXPOSURES, AND ABBREVIATIONS

1. SYMBOLS.



Ion chamber exposure location; tube pointed downward

Ion chamber exposure location; tube pointed laterally

Window

Door

X-ray table

Dental chair

Cassette holder

Control panel

Movable protective shield

Photofluorographic tube and hood

X-ray tube

Panoramic dental x-ray system

2. INSTRUMENTATION.

a. Ionization Chamber, Victoreen Survey Meter, Model 440, SN: 1286, calibrated 15 February 1983.

b. Condenser R-meter, Victoreen Model 570, SN: 2520, with : 5.0 R chamber, SN: 146. Instruments were last calibrated 21 January 1983.

c. X-Ray Monitor, MDH Industries, Model 1015, SN: 1103, calibrated 22 February 1983.

d. Footcandle Meter, Digaphot Model 3300, SN: 9375, calibrated 1 October 1982.

3. MEASUREMENT TECHNIQUES.

a. Ion Chamber Locations. Ion chambers were positioned at heights of 3 to 5 feet (1 meter to 1.52 meters) in the areas shown on the plates. The chamber positions were based on occupancy of the area or on the basis of a survey utilizing an ion chamber type survey meter indicating a possible hazard area.

b. Exposure Measurements. Exposure measurements were made, where feasible, for x-ray systems other than fluoroscopic, in areas occupied, potentially occupied, or exposed to the useful beam. For fluoroscopic systems, measurements were made in occupied or potentially occupied areas.

c. Medical X-Ray Systems Positioning. Except where noted in the findings of this report, positioning was as follows:

(1) Radiographic X-Ray Systems.

(a) Downward Orientation of Useful Beam. The exposure tube was approximately 24 inches (61 cm) from the tabletop with a field size normally used for exposures of a 14-inch by 17-inch (35-cm by 43-cm) cassette @ 72 inches (183 cm).

(b) Lateral Orientation of Useful Beam. The exposure tube was approximately 72 inches (183 cm) from the wall cassette with the field size normally used for exposures of a 14-inch by 17-inch (35-cm by 43-cm) cassette.

(2) Photofluorographic X-Ray Systems. Procedure utilized PA orientation of the useful beam with field size and distance as fixed by system.

(3) Urological X-Ray System. Procedure utilized downward orientation of the useful beam with distance as fixed by system.

(4) Fluoroscopic X-Ray System. Vertical and lateral patient positions were simulated. Fluoroscopic screen was 12 inches (30 cm) from the table with the image the size of the screen during measurements.

d. Dental X-Ray System Positioning. The useful beam was oriented downward. The x-ray tube was 24 inches (61 cm) from the dental chair seat.

e. Special X-Ray Systems. Special x-ray systems, such as panoramic dental x-ray system, radiographic head, and therapy units, were utilized in their normal configuration.

4. EXPLANATION OF EXPOSURES. Unless noted in the body of this report, the exposures measured at the locations shown were made to evaluate the performance of x-ray equipment based on the criteria published in TB MED 521 and were such that, in controlled areas, a radiation worker would receive less than 100 millirem per week and in uncontrolled areas, nonradiation workers would receive less than 10 millirem per week. Calculations were based upon workloads specified in TB MED 521, for diagnostic x-ray systems and upon actual workloads for therapy units. All measurements in excess of these limits, if any, are approximately noted in the report. Exposures were made, where feasible, at maximum operating kVp for all x-ray systems.

5. ABBREVIATIONS.

Al	aluminum
CFR	Code of Federal Regulations
DAC	Department of the Army civilian
DENTAC	Dental Activity
fc	footcandle
FOUO	For Official Use Only
HSC-IG	Health Services Command-Inspector General
HVL	half-value layer
kVp	kilovolt peak
MEDDAC	Medical Department Activity
mA	milliampere
mA-min	milliampere minute
mAs	milliampere second
MMCN	Medical Material Control Number
mR	milliroentgen
mR/h	milliroentgen per hour
NCOIC	noncommissioned officer-in-charge
NRC	Nuclear Regulatory Commission
PACH	Patterson Army Community Hospital
PBL	positive beam limitation
PID	position indicating device
R	Roentgen
RPO	Radiation Protection Officer
SCD	source-to-chamber distance
SID	source-to-image receptor distance
SN	serial number
SOP	standing operating procedure
SSD	source-to-skin distance
TLD	themoluminescent dosimeter
USAEHA	US Army Environmental Hygiene Agency

HSHB-RH/WP
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

ANALYSIS OF DIAGNOSTIC X-RAY UNITS SURVEYED

HEAD ROOM, DEPARTMENT OF RADIOLOGY
PATTERSON ARMY COMMUNITY HOSPITAL

1. IDENTIFYING DATA AND OUTPUT.

a. MMCN: Not available.

b. Franklin Head Unit. Control: Xonics Model A-60000-3, SN: 0183-0381-004.

c. Radiographic Unit, 150 kVp, 600 mA. Tube Housing: Sapphire 150th, SN: J793. Output: 1.37 R/100 mAs at 90 kVp, corrected to 24 inches (61 cm) SCD.

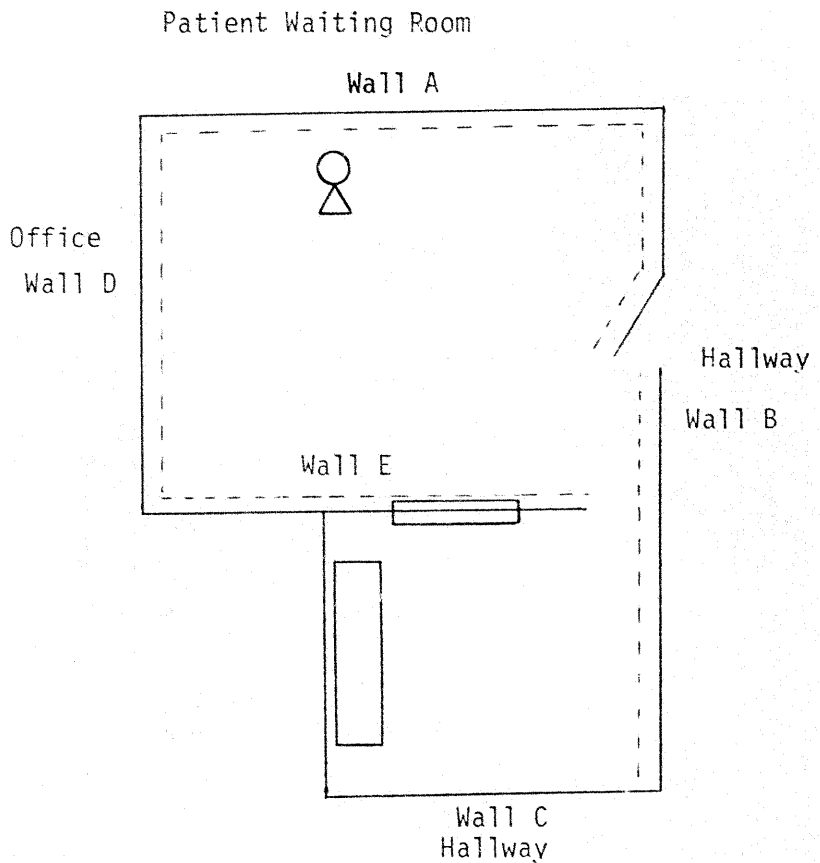
2. DESCRIPTION OF DEFICIENCIES. None.

3. COMMENTS. None.

4. CORRECTIVE REQUIREMENTS. None.

GRAPHICAL ILLUSTRATION

For use of this form see AEHA Form 6 SOP; the proponent is HSE-AT.



- - - - - - 1/16 inch lead equivalent to a height of 7 feet

HEAD Room, PACH (Franklin Head Unit)

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY
UNITED STATES ARMY MEDICAL DEPARTMENT

DATE 25 Mar 83
DRAWN DCW
APPROVED CED
SCALE NTS
PLATE NA

Replaces USAEHA Form 15, 12 Aug 74, which will be used.

HSHB-RH/WP
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

CHEST ROOM, DEPARTMENT OF RADIOLOGY
PATTERSON ARMY COMMUNITY HOSPITAL

1. IDENTIFYING DATA AND OUTPUT.

a. MMCN: G4412.

b. General Electric Chest Unit (nonphototimed). Control: Model 46-178500G1, SN: 309303.

c. Radiographic Unit, 120 kVp, 500 mA. Tube Housing: Model 46-15580065, SN: 989216. Output: 1.83 R/100 mAs at 90 kVp, 24 inches (61 cm) SCD.

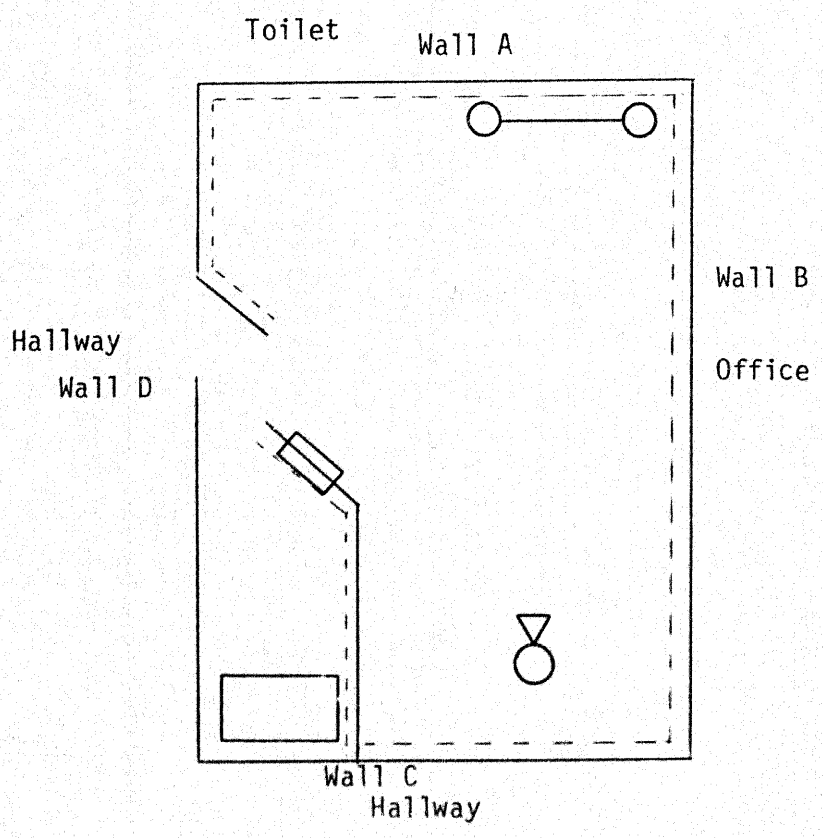
2. DESCRIPTION OF DEFICIENCIES. None.

3. COMMENTS. None.

4. CORRECTIVE REQUIREMENTS. None.

GRAPHICAL ILLUSTRATION

For use of this form see AEHA Form 6 SOP; the proponent is HSE-AT.



= = = = = = = 1/16 inch lead equivalent to a height of 7 feet

Chest Room, PACH

DATE 25 Mar 83
DRAWN DCW
APPROVED CED
SCALE NTS
PLATE NA

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY
UNITED STATES ARMY MEDICAL DEPARTMENT

HSHB-RH/WP
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

RADIOGRAPHIC-FLUOROSCOPIC ROOM 1, DEPARTMENT OF RADIOLOGY
PATTERSON ARMY COMMUNITY HOSPITAL

1. IDENTIFYING DATA AND OUTPUT.

a. MMCN: G4450.

b. Xonics Radiographic-Fluoroscopic Unit with Image Intensification. Control: Model A-55000-1, SN: 0184-0280-007.

c. Radiographic Unit, 150 kVp, 1000 mA. Tube Housing Model: Sapphire-150, SN: K0845. Output: 1.86 R/100 mAs at 90 kVp, 24 inches (61 cm) SCD.

d. Fluoroscopic Unit, 120 kVp, 600 mA (Spot Film). Tube Housing: Model and SN inaccessible. Output: 5.49 R/min at 110 kVp, 300 mA, tabletop.

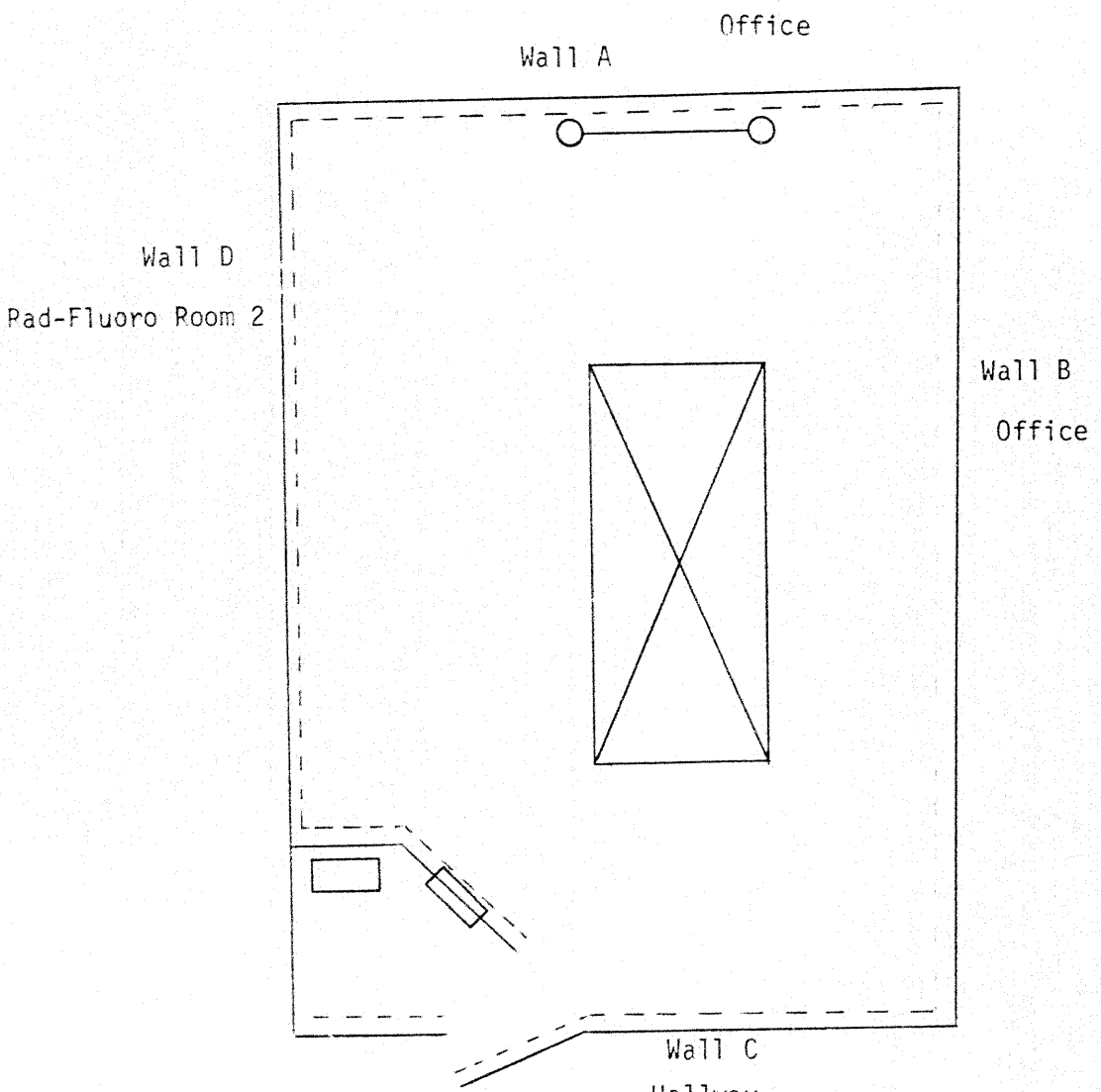
2. DESCRIPTION OF DEFICIENCIES. The system could not be operated manually in the fluoroscopic mode.

3. COMMENTS. None.

4. CORRECTIVE REQUIREMENTS. Repair the fluoroscopic mode controls so that the system can be controlled manually.

GRAPHICAL ILLUSTRATION

For use of this form see AEHA Form 6 SOP; the proponent is HSE-AT.



Rad-Fluoro Room 1, PACH

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY

UNITED STATES ARMY MEDICAL DEPARTMENT

DATE 25 Mar 83
DRAWN DCW
APPROVED CED
SCALE NTS
PLATE NA

Replaces USAEHA Form 15, 12 Aug 74, which will be used.

HSHB-RH/WP
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

RADIOGRAPHIC-FLUOROSCOPIC RCOM NO. 2, DEPARTMENT OF RADIOLOGY
PATTERSON ARMY COMMUNITY HOSPITAL

1. IDENTIFYING DATA AND OUTPUT.

a. MMCN: 4409.

b. General Electric Radiographic-Fluoroscopic Unit with Image Intensification. Control: Model 46-178400G1, SN: 306644.

c. Radiographic Unit: 110 kVp, 500 mA. Tube Housing: Model 46-173399G1, SN: 308504. Output: 2.26 R/100 mAs at 90 kVp, 24 inches (61 cm) SCD.

d. Fluoroscopic Unit, 120 kVp, 500 mA (Spot Film). Tube Housing: Model and SN inaccessible. Output: 10.7 R/min at 100 kVp, 200 mA, tabletop.

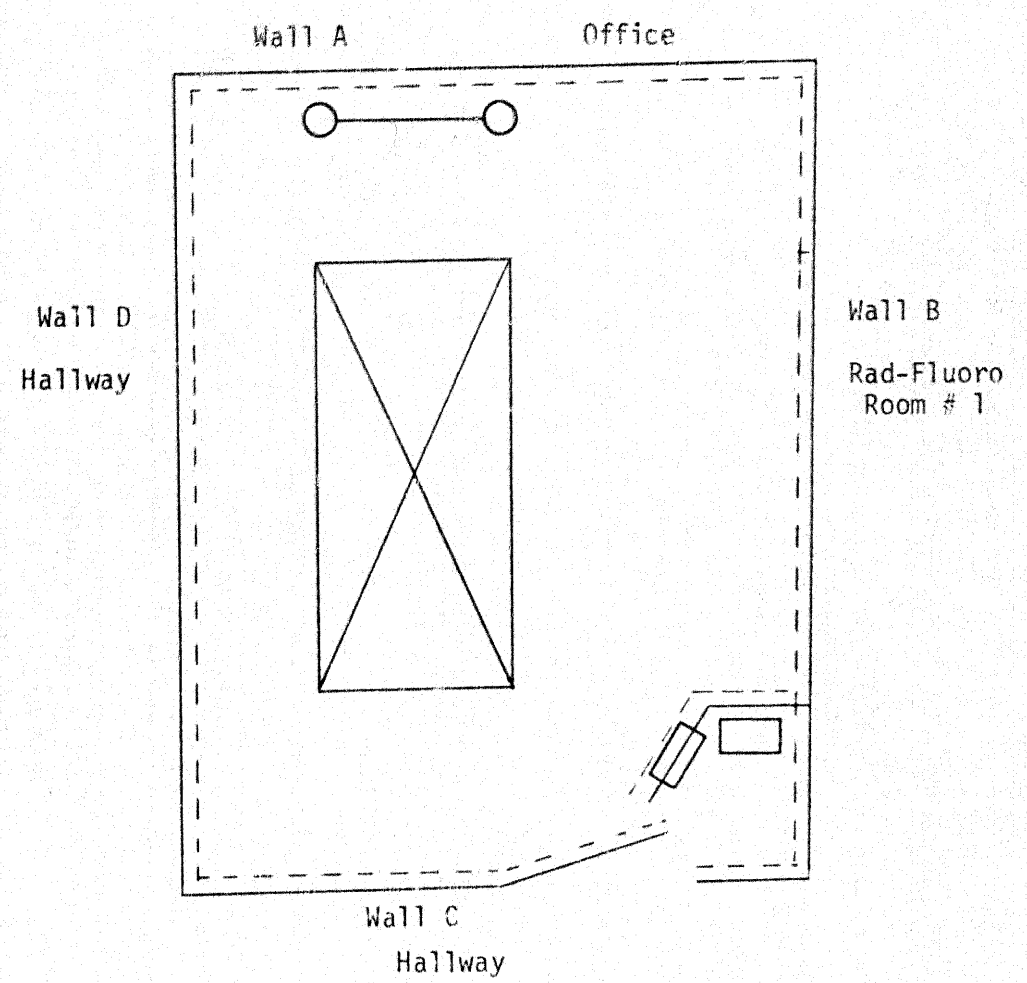
2. DESCRIPTION OF DEFICIENCIES. The maximum fluoroscopic output rate of 10.7 R/min is greater than the allowable standard of 10 R/min.

3. COMMENTS. The NCOIC of the Radiology Department was informed about this deficiency. He stated that the 120 kVp station was seldom used and that it could be disabled. The rate of 10.7 R/min was obtained using the maximum kVp available from the system.

4. CORRECTIVE REQUIREMENTS. Disable the 120 kVp station, reduce the maximum available tube current or make other repair/adjustments so that the maximum fluoroscopic output does not exceed 10 R/min for any combination of peak tube potential and tube current in accordance with paragraph 5-2b(1), TB MED 521.

GRAPHICAL ILLUSTRATION

For use of this form see AEHA Form 6 SOP; the proponent is HSE-AT.



1/16 inch lead equivalent to a height of 7 feet

Rad-Fluoro Room 2, PACH

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY

UNITED STATES ARMY MEDICAL DEPARTMENT

DATE 25 Mar 83
DRAWN DCW
APPROVED CED
SCALE NTS
PLATE NA

HSHB-RH/WP
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

MOBILE X-RAY UNIT, DEPARTMENT OF RADIOLOGY
PATTERSON ARMY COMMUNITY HOSPITAL

1. IDENTIFYING DATA.

a. MMCN: G4449.

b. General Electric Mobile Radiographic Unit. G. E. Control Model: 225II, SN: 34315WK2.

c. Radiographic Unit, 125 kVp, 200 mA. Tube Housing Model: 46-155750G4, SN: 14135EA8. Output: 1.04 R/100 mAs at 90 kVp, 24 inches (61 cm) SCD.

2. DESCRIPTION OF DEFICIENCIES. The radiation output of 1.04 R/100 mAs is below the recommended minimum value in Table 7, Appendix E, TB MED 521.

3. COMMENTS. The low radiation output of an x-ray could be due to aging of the x-ray tube, or need for system calibration. The beam HVL was measured and found to be 2.5 mm Al at 90 kVp. A check of kVp station verified calibration of the kVp output. The timer was functioning properly.

4. CORRECTIVE REQUIREMENTS. The survey team was unable to measure tube current. The tube current should be checked to insure that the mAs settings on the control are correct. If the tube current is properly set, i.e., the mAs settings are correct, the tube output is below recommended levels due possibly to roughing of the tube anode. If so, the tube insert should be replaced in accordance with the Table on page 7-6, TB MED 521.

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HSHB-RH/WP
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

MOBILE X-RAY UNIT, DEPARTMENT OF RADIOLOGY
PATTERSON ARMY COMMUNITY HOSPITAL

1. IDENTIFYING DATA AND OUTPUT.

a. MMCN: G4404.

b. General Electric Mobile Radiographic Unit, battery powered. Control: Model 46-165600G1, SN: 956292.

c. Radiographic Unit, 125 kVp, 200 mA. Tube Housing: Model 46-155750G2. Output: unit nonoperational.

2. DESCRIPTION OF DEFICIENCIES. Unit was unserviceable.

3. COMMENT. Biomedical Maintenance was working on the unit.

4. CORRECTIVE REQUIREMENTS. None.

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HSHB-RH/WP
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

DENTAL CLINIC, BUILDING 814, FORT MONMOUTH, NEW JERSEY

1. IDENTIFYING DATA AND OUPUT.

a. MMCN. Not available (newly installed unit).

b. SS White, Intra Oral, Model: 2431-4010Y, SN: Y30364.

c. Dental unit, 90 kVp, 15 mA, Tube Housing SS White, Model unknown, SN: 54770. Output 1.0 R/100 mAs at 90 kVp, 24 inches (61 cm) SCD.

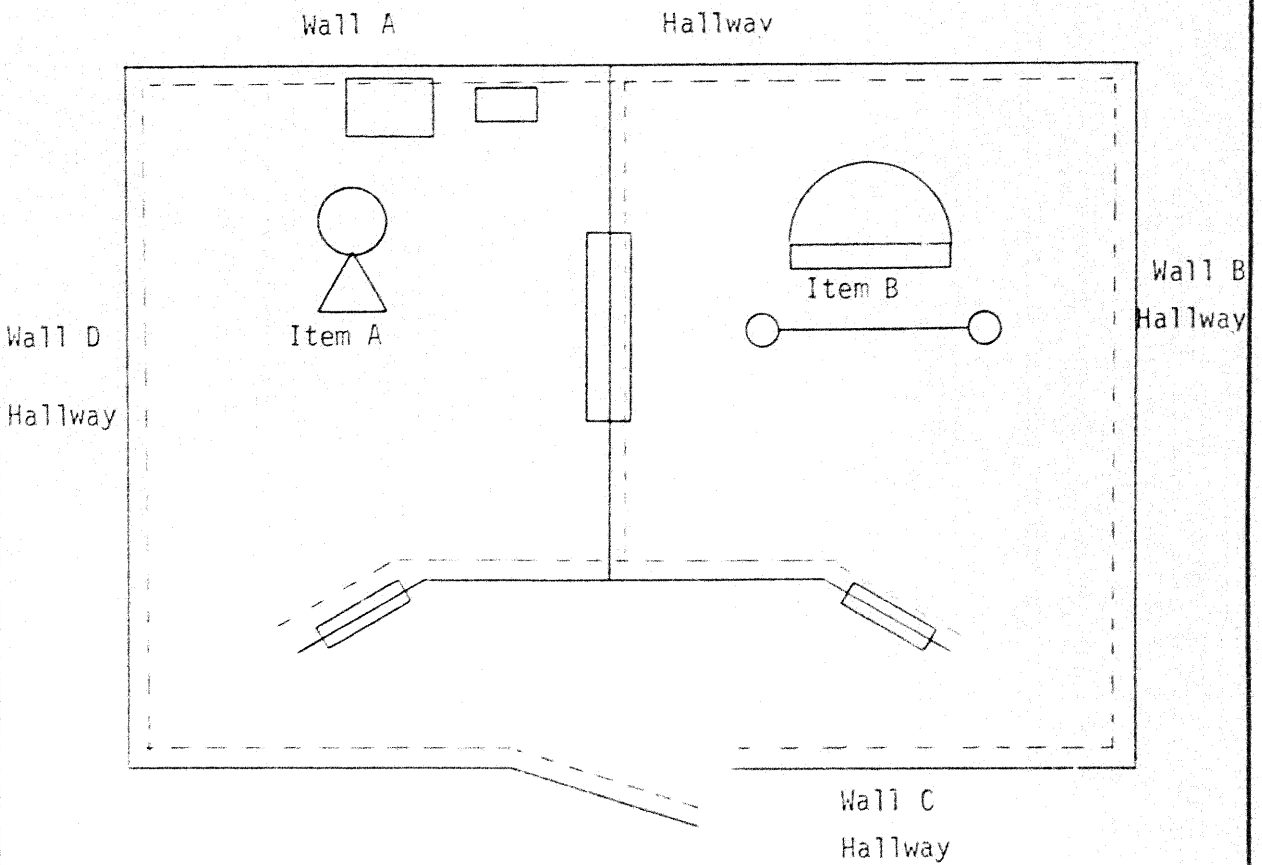
2. DESCRIPTION OF DEFICIENCIES. None.

3. COMMENTS. This unit is identified as item "A" in the diagram on the following page.

4. CORRECTIVE REQUIREMENTS. None.

GRAPHICAL ILLUSTRATION

For use of this form see AEHA Form 6 SOP; the proponent is HSE-AT.



_ _ _ _ _ _ 1/8 inch lead equivalent to a height of 7 feet

Dental Clinic, Building 814, Fort Monmouth, New Jersey

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY

UNITED STATES ARMY MEDICAL DEPARTMENT

DATE 25 Mar 83
DRAWN DCW
APPROVED CED
SCALE NTS
PLATE NA

HSHB-RH/WP
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

DENTAL CLINIC, BUILDING 2134, FORT MONMOUTH, NEW JERSEY

1. IDENTIFYING DATA AND OUTPUT.

a. MMCN. Not available (newly installed unit).

b. General Electric, Panelipse II, Model 46-197490G1, SN: 337002DN0.

c. Dental Unit, 100 kVp, 4 mA, Tube Housing General Electric, Model 46-137660G20, SN: 335427DN1. Output was 0.00646 R/mAs as measured with an MDH 0.6 cc chamber. Output value was corrected to 14 inches (48.3 cm) SCD. A volume correction factor for the chamber size was not applied to the output value.

2. DESCRIPTION OF DEFICIENCIES. None.

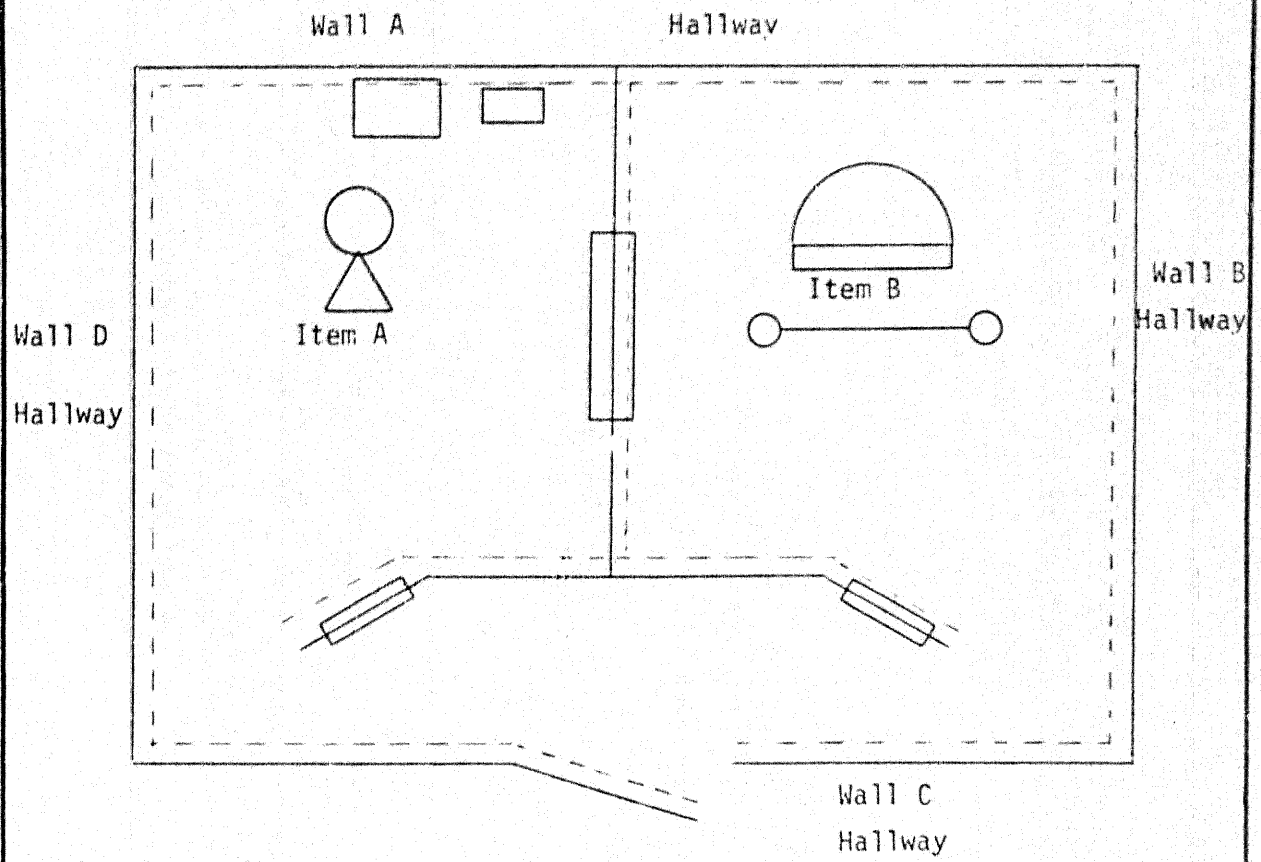
3. COMMENTS. This unit is identified as item "B" in the diagram on the following page.

4. CORRECTIVE REQUIREMENTS. None.

SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

GRAPHICAL ILLUSTRATION

For use of this form see AEHA Form 6 SOP; the proponent is HSE-AT.



_ _ _ _ _ _ 1/8 inch lead equivalent to a height of 7 feet

Dental Clinic, Building 814, Fort Monmouth, New Jersey

DATE 25 Mar 83
DRAWN DCW
APPROVED CED
SCALE NTS
PLATE NA

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY
UNITED STATES ARMY MEDICAL DEPARTMENT

HSHB-RH/WP
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

ROOM 1A96, PATTERSON ARMY COMMUNITY HOSPITAL

1. IDENTIFYING DATA AND OUTPUT.

a. MMCN: G1119.

b. SS White, Intra Oral, Model 90 W, SN: K26604.

c. Dental unit 90 kVp, 10 mA, Tube Housing SS White, Model 696-15, SN: 8438AD. Output was 0.356 R/mAs corrected to 4 inches (10 cm) SCD. Measured kVp was 54.8.

2. DESCRIPTION OF DEFICIENCIES.

a. The kVp was out of calibration. An indication of 90 kVp on the control console corresponded to a measured kVp of 54.8.

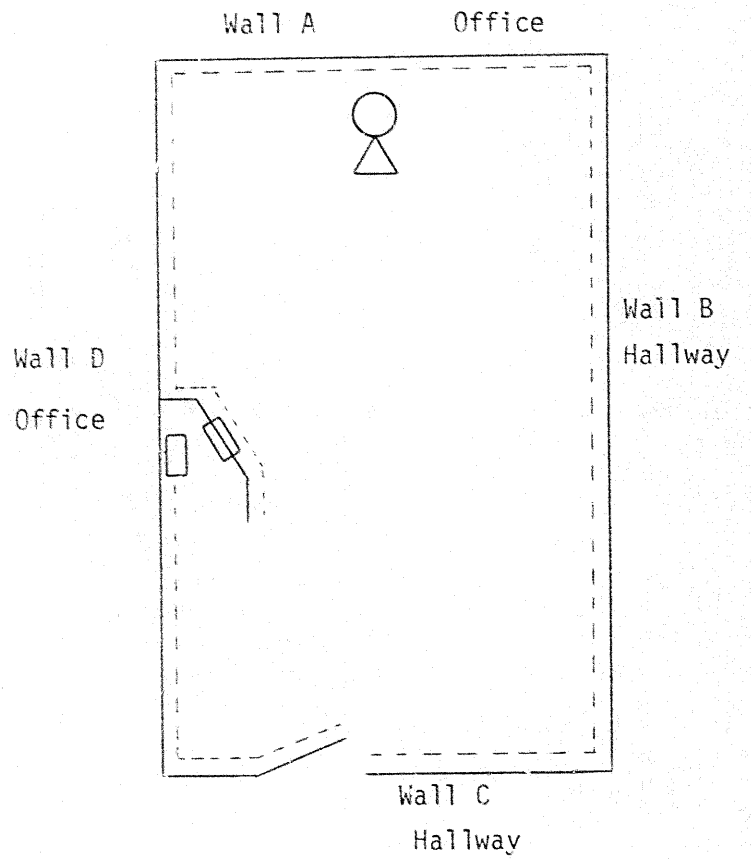
b. The HVL of the beam was about 1.6 mm Al. This HVL in conjunction with a measured kVp of 54.8 indicates a total filtration in the beam of approximately 2.0 mm Al. Units designed to operate at 90 kVp should have at least 2.5 mm Al total filtration in the beam.

3. COMMENTS. None.

4. CORRECTIVE REQUIREMENTS. Discontinue use of this unit until extra filtration is placed in the beam and the kVp output is properly adjusted in accordance with paragraphs 5-6a(4) and 5-6b(5), TB MED 521.

GRAPHICAL ILLUSTRATION

For use of this form see AEHA Form 6 SOP; the proponent is HSE-AT.



– – – – – – 1/16 inch lead equivalent to a height of 7 feet

Dental Unit, Room 1A96, PACH

DATE 25 Mar 83
DRAWN DCW
APPROVED CED
SCALE NTS
PLATE NA

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY
UNITED STATES ARMY MEDICAL DEPARTMENT

HSHB-RH/WP
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

DENTAL CLINIC, BUILDING 814, FORT MONMOUTH, NEW JERSEY

1. IDENTIFYING DATA AND OUTPUT.

a. MMCN. Not available (newly installed unit).

b. Siemens, Heliodent, intraoral, Model 5828801, SN: D31804.

c. Dental unit, 70 kVp, 7 mA. Tube Housing: Model 1154269V1022, SN: 210808506. Output was 0.032 R/mA-sec corrected to 16 inches (41 cm) SCD.

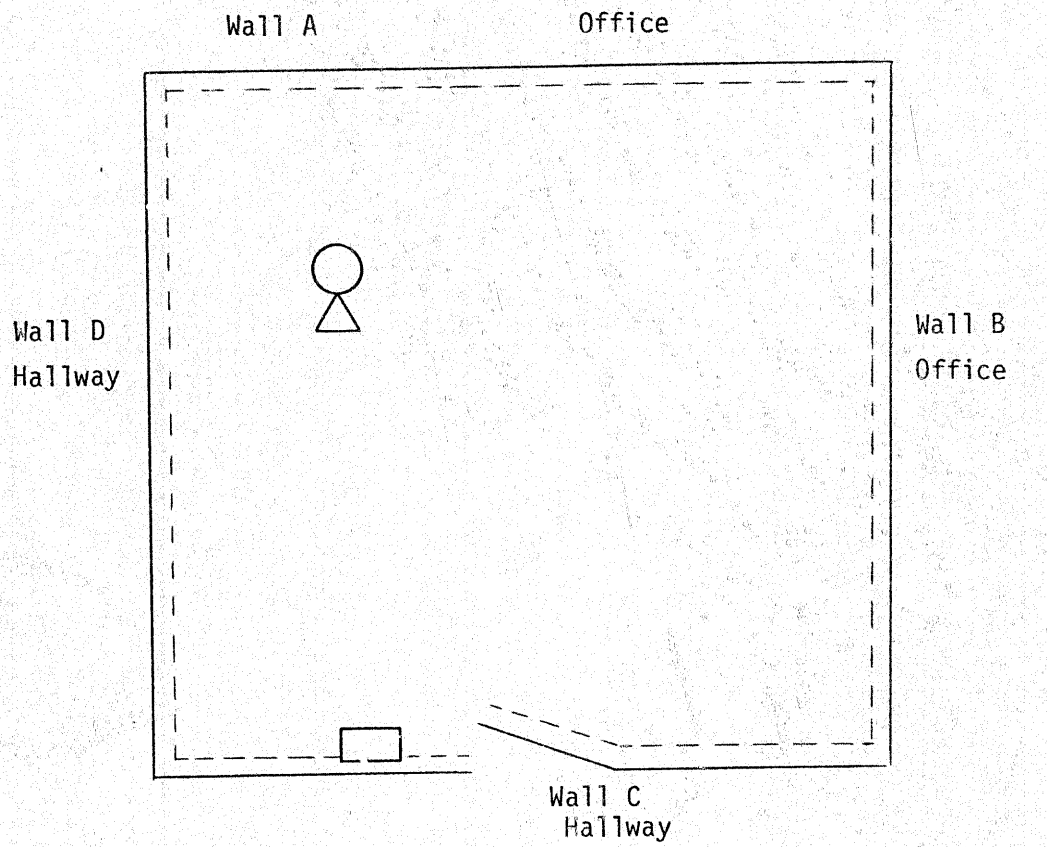
2. DESCRIPTION OF DEFICIENCIES. None.

3. COMMENTS. The kVp output of the generator could be caused to operate beyond the manufacturer's specifications. This could be accomplished by turning the line voltage compensator knob until the dial indicator was no longer in the "white" operating area. The manufacturer's operating instructions recommended not operating the unit when the dial indicator was outside of the "white region." Operating personnel should be informed of the importance of this easily alterable adjustment.

4. CORRECTIVE REQUIREMENTS. None.

GRAPHICAL ILLUSTRATION

For use of this form see AEHA Form 6 SOP; the proponent is HSE-AT.



— — — — — — 1/8 inch lead equivalent to a height of 7 feet

Dental Clinic, Building 814, Fort Monmouth, New Jersey

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY

UNITED STATES ARMY MEDICAL DEPARTMENT

DATE 25 Mar 83
DRAWN DCW
APPROVED CED
SCALE NTS
PLATE NA

HSHB-RH/WP
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

ROOM 17, DENTAL CLINIC, BUILDING 834, FORT MONMOUTH, NEW JERSEY

1. IDENTIFYING DATA AND OUTPUT.

a. MMCN: G1107.

b. Siemens Orthopantomograph, Model OP3, SN: 3466.

c. Dental Unit, 85 kVp, 15 mA. Tube Housing: Model 1459643R7620, SN: 664944. Output: not determined.

2. DESCRIPTION OF DEFICIENCIES. None.

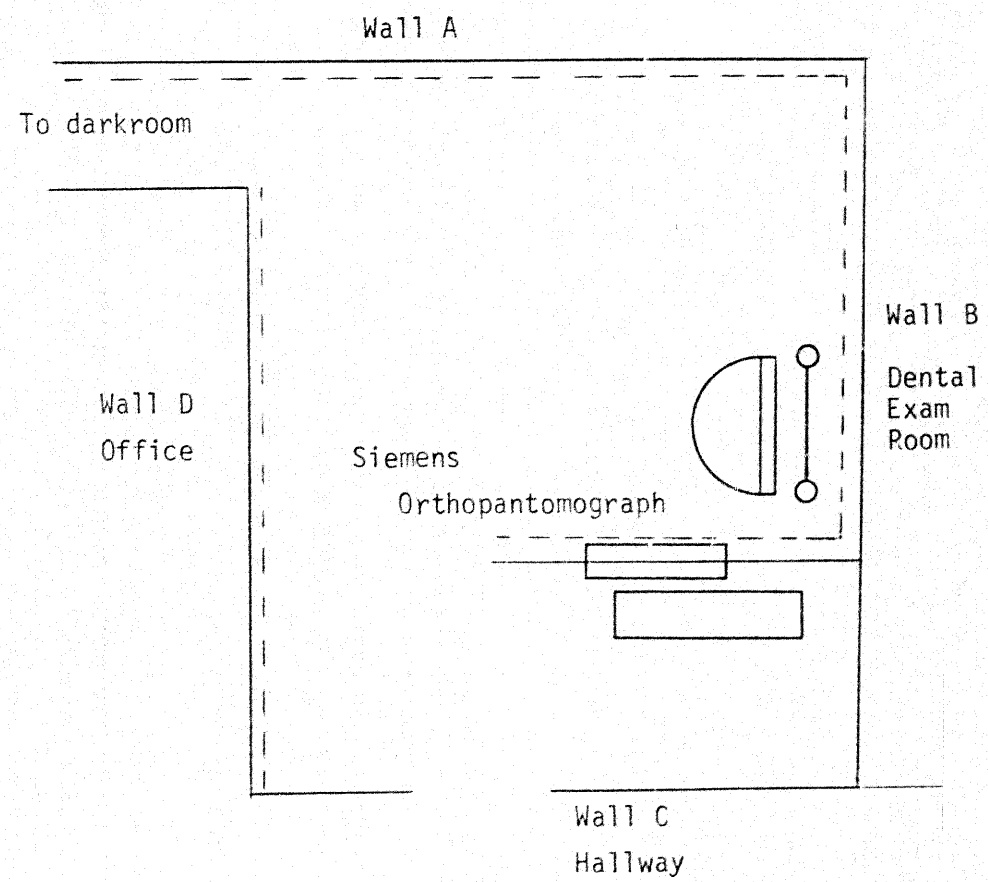
3. COMMENTS. This unit was not evaluated during this survey. It had been previously evaluated on 17-18 March 1982 and was currently scheduled for turn-in within 90 days.

4. CORRECTIVE REQUIREMENTS. None.

GRAPHICAL ILLUSTRATION

For use of this form see AEHA Form 6 SOP; the proponent is HSE-AT.

Outside of Building (2nd Floor Level)



— — — — — — 1/16 inch lead equivalent to a height of 7 feet

Room 17, Dental Clinic, Building 834, Fort Monmouth

DATE 25 Mar 83
DRAWN DCW
APPROVED CED
SCALE NTS
PLATE NA

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY
UNITED STATES ARMY MEDICAL DEPARTMENT

Replaces USAEHA Form 15, 12 Aug 74, which will be used.

HSHB-RH/WP
SUBJECT: Radiation Protection Survey No. 28-43-0705-83, MEDDAC/DENTAC, Fort Monmouth, New Jersey, 14-16 March 1983

X-RAY ROOM, DENTAL CLINIC, BUILDING 835, FORT MONMOUTH, NEW JERSEY

1. IDENTIFYING DATA AND OUTPUT.

a. MMCN: G1120.

b. SS White, Intraoral Unit, Model 2410-1130Y, SN: K27467.

c. Dental Unit, 90 kVp, 10 mA. Tube Housing: Dundee, Model S96-15, SN: 3432AD. Output: 1.6 R/100 mAs at 90 kVp, 24 inches (61 cm) SCD.

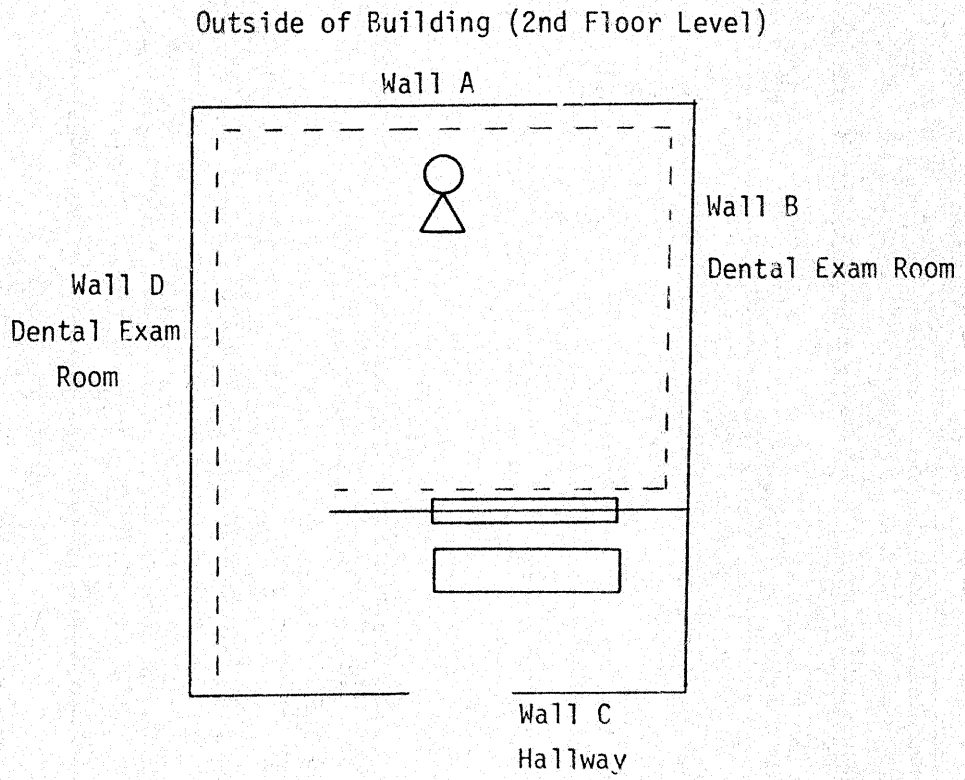
2. DESCRIPTION OF DEFICIENCIES. None.

3. COMMENTS. This unit was not evaluated during this survey. It had been previously evaluated on 17-18 March 1982 and was currently scheduled for turn-in within 90 days.

4. CORRECTIVE REQUIREMENTS. None.

GRAPHICAL ILLUSTRATION

For use of this form see AEHA Form 6 SOP; the proponent is HSE-AT.



— — — — — — 1/16 inch lead equivalent to a height of 7 feet

X-Ray Room, Dental Clinic, Building 835, Fort Monmouth

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY
UNITED STATES ARMY MEDICAL DEPARTMENT

DATE 25 Mar 83
DRAWN DCW
APPROVED CED
SCALE NTS
PLATE NA

Replaces USAEHA Form 15, 12 Aug 74, which will be used.