DEPARTMENT OF THE ARMY
HEADQUARTERS, US ARMY COMMUNICATIONS-ELECTRONICS COMMAND
AND FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703-5000

REPLY TO
ATTENTION OF

AMSEL-SF-RER (385-11i) 6 June 1988

MEMORANDUM FOR: Commander, U.S. Army Environmental Hygiene Agency, ATTN: HSHB-MR(Ashby), Aberdeen PG, MD 21010-5422

SUBJECT: Amendments to Nuclear Regulatory Commission (NRC) Licenses

1. Reference meeting, 19 May 1988, between Mr. Steven A. Horne, Chief, CECOM Safety Office and Mr. D. Ashby and SSG. Goodison, your agency, subject: Results of CECOM Radiation Protection Program Inspection.

2. During referenced meeting, it was noted that three letters referenced in NRC licenses held by this command were not located in the license files at the CECOM Safety Office. Subsequent to this meeting, this office has contacted the NRC and has obtained copies of the missing correspondence.

3. At the enclosure are copies of the 16 December 1983 letters (note to files) for NRC license SNM-1323 and the 25 July 1985 and 19 November 1985 letters for NRC license 29-01022-07. It is noteworthy that none of these documents were generated from this command, and that no copies were ever furnished by the generating activity.

4. Point of contact, this command, is Mr. Joseph Furia or Mr. Joseph Santarsiero, AV 995-4427.

Encl

BARRY J. SILBER
Chief, Radiological and
Environmental Engr Div

CONCURRENCE				
OFFICE	NAME	INITIALS	DATE	TEL
SF-RER	J. Furia	JFS	6/6	44427
	B Silber	BJS	6/6	

Office of Record

AMSEL-SF-RER(AMCSG-R/19 Aug 88) 2nd End Santarsiero/cn/AV995-4427
SUBJECT: Radiation Protection Survey No. 27-43-0160-88, U.S. Army Communications-Electronics Command, Fort Monmouth, New Jersey, 16-20 May 1988

Commander, U.S. Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-SF-RER, Fort Monmouth, NJ 07703-5000
25 Aug 88

FOR: Commander, U.S. Army Materiel Command, ATTN: AMCSG-R, 5001 Eisenhower Avenue, Alexandria, VA 22333-0001

1. As requested, the following comments regarding the recommendation cited in paragraph 7, subject report, are provided:

a. We have always performed monthly physical surveys of our radioactive waste storage area located in Bldg T-383, Evans Area.

b. Because of the presence of unsealed Tritium (H-3) waste being stored in Bldg T-383, we have since May 1988, added monthly wipe test analysis to our physical survey. In addition, since August 1988, we have also been performing air sample analysis of Bldg T-383.

c. We will continue to perform physical surveys, wipe test analysis and air monitoring on a monthly basis until such time as the unsealed H-3 waste is disposed of.

d. When only sealed sources awaiting disposition are being stored in Bldg T-383, physical monitoring only will be performed on a monthly basis.

3. Results of our wipe test analysis and air monitoring, to date, identify no external/airborne contamination levels.

4. POC this command is Mr. Joseph M. Santarsiero or the undersigned, AV 995-4427.

FOR THE COMMANDER:

2 Encls
nc

BARRY J. SILBER
Acting Chief, Safety Office

CONCURRENCE				
OFFICE	NAME	INITIALS	DATE	YR
RER	Santarsiero		8/26	
	BJSilber		8/26	

2

S: 19 Nov 88

AMCSG-R (HSHB-MR-HI/10 Aug 88) (40-5f) 1st End MAJ Samiljan/cmt/284-9470
SUBJECT: Radiation Protection Survey No. 27-43-0160-88, U.S. Army Communications-Electronics Command, Fort Monmouth, New Jersey, 16-20 May 1988

Cdr, USAMC, 5001 Eisenhower Avenue, Alexandria, VA 22333-0001 19 August 1988

FOR: Commander, U.S. Army Communications-Electronics Command, ATTN: AMSEL-SF-RIR, Ft. Monmouth, NJ 07703-5000

1. We have reviewed the subject report. It is forwarded for information and necessary action.

2. Request you furnish a report of actions proposed/taken in regard to the recommendation contained in para 7, subject report, to this headquarters, ATTN: AMCSG, NLT 19 Nov 88.

3. Refer questions about this endorsement to this office's point of contact, MAJ Art Samiljan, at AUTOVON 284-9470.

FOR THE COMMANDER:

Taras Nowosiwsky

TARAS NOWOSIWSKY, M.D.
Colonel, MC
Command Surgeon

2 Encls
nc

CF:
AMCSF-P
AMXOS-ES
Cdr, USAEHA, ATTN: HSHB-MR-HI

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

REPLY TO ATTENTION OF
HSHB-MR-HI .

10 August 1988

MEMORANDUM FOR: Commander, U.S. Army Materiel Command, ATTN: AMCSG, 5001 Eisenhower Avenue, Alexandria, VA 22333-0001

SUBJECT: Radiation Protection Survey No. 27-43-0160-88, U.S. Army Communications-Electronics Command, Fort Monmouth, New Jersey, 16-20 May 1988

1. AUTHORITY. Memorandum HQ AMC, AMCSG-R, 8 July 1987, subject: Field Mission Services, FY 88, Program 27.

2. PURPOSE. This survey was performed to assist in your efforts to manage radioactive commodities in the Department of the Army (DA) supply system controlled by U.S. Army Communications-Electronics Command (CECOM) and to assist in your efforts to use and store sources of ionizing radiation safely and in accordance with (IAW) current regulatory requirements. Specifically this survey was performed to:

a. Alert you to any previously unknown potential health hazards or areas of noncompliance with regulatory requirements associated with the use or storage of these sources and the management of radioactive commodities.

b. Provide recommendations to correct the health hazards, ensure regulatory compliance, and improve your radiation protection program.

c. Provide the command with a general description of the overall radiation protection program as perceived during the survey.

3. GENERAL.

a. An entrance interview and an exit briefing were held with Mr. Steven A. Horne, Department of the Army Civilian (DAC), Chief, Safety Office, CECOM; Mr. Barry J. Silber, DAC, Chief, Radiological and Environmental Engineering Division, CECOM, and Radiation Protection Officer (RPO), CECOM and Fort Monmouth; and Mr. Joseph M. Santarsiero, DAC, Chief, Radiological Safety Branch, CECOM, and alternate RPO, CECOM and Fort Monmouth.

b. The most recent survey of the overall radiation protection program at HQ CECOM was conducted during the period 24-25 June 1985 (Radiation Protection Survey No. 28-43-0826-85). The most recent survey of the

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overall radiation protection program at Fort Monmouth was conducted during the period 26-28 June 1985 (Radiation Protection Survey No. 28-43-0825-85).

c. This survey was conducted by Mr. Douglas G. Ashby, DAC, and SSG Scott G. Goodison, USA, Health Physics Division, U.S. Army Environmental Hygiene Agency.

d. A list of Nuclear Regulatory Commission (NRC) licenses and Department of the Army Radiation Authorizations (DARA) managed by HQ CECOM is provided as Enclosure 1.

4. FINDINGS.

a. General.

(1) Mr. Silber and Mr. Santarsiero had been designated, in writing as RPO and alternate RPO, respectively, for HQ CECOM and Fort Monmouth.

(2) Mr. Horne had been designated, in writing, as manager of the NRC license and DARAs issued to HQ CECOM for world-wide use of radioactive commodities.

(3) A Radiation Control Committee (RCC) had been designated, in writing, and minutes of the committee meetings were available for review. The minutes indicated that the RCC was meeting on a quarterly basis.

(4) The written radiation protection program for all activities utilizing ionizing radiation sources at Fort Monmouth was administered through CECOM Regulation No. 385-18, 19 March 1987, Safety, Ionizing Radiation Protection Program.

(5) Standing Operating Procedures were established for each operation involved with the use and storage of radioactive material and equipment capable of producing x-rays.

(6) Standing Operating Procedures for use and storage of radioactive commodities managed by HQ CECOM were established in the technical manuals and bulletins to each commodity.

b. Personnel Dosimetry Program.

(1) Personnel occupationally exposed to ionizing radiation at HQ CECOM and Fort Monmouth utilized the Army film badge service.

(2) Mr. Joseph Furia, DAC, was designated, in writing, as the individual responsible for preparing and maintaining:

(a) The DD Forms 1141, Record of Occupational Exposure to Ionizing Radiation, and;

(b) The DD Forms 1952, Dosimeter Application and Record of Occupational Radiation Exposure.

(3) Personnel dosimetry results indicated that occupational radiation exposures have been kept as low as is reasonably achievable. The dosimetry records indicated that:

(a) Twenty-nine individuals where identified as radiation workers by their inclusion in the Army film badge program.

(b) All occupationally exposed individuals had received exposures in the preceding year of less than 10 percent of the applicable whole-body dose equivalent limits (AR 40-14).

(4) The dosimetry records were maintained IAW applicable directives.

c. NRC Licenses and DARAs. The HQ CECOM managed five NRC licenses and four DARAs (see Enclosure 1 for a listing):

(1) One NRC license and three DARAs were issued to HQ CECOM for world-wide use of radioactive commodities in the DA supply system.

(2) Four NRC licenses and one DARA were issued to CECOM for use and storage of radioactive material on Fort Monmouth.

d. Radioactive Materials. Radioactive materials were used and stored at various locations on two areas of Fort Monmouth.

(1) Charles Wood Area.

(a) Building 2700. Located in Room 4C111 of this building was a Mossbauer Spectroscopy System housing a 3 millicurie Cobalt-57 source.

(b) Building 2705. Located in Room 825 of this building were two radioactive calibration sources, Cobalt-57 (20 millicurie) and Cesium-137 (5 millicurie).

(c) The radioactive sources in Buildings 2700 and 2705 were properly secured and the areas and radioactive material were posted with the appropriate warning signs and labels. Other required documents such as safety procedures and notices to the employees were also posted.

(2) Evans Area.

(a) The majority of the radioactive material used and stored at Fort Monmouth were in one of three buildings located in the Evans Area, i.e., Buildings 9045, 9401, and T-387 housed approximately 120 various radioactive sources.

(b) Building 9045. Located in this building were various radioactive sources used as check sources or calibration sources. The radioactive quantities of these sources ranged from a few microcuries to a few millicuries, with the exception of a 675 millicurie low range calibration source.

(c) Building 9401. Located in this building were sources with relatively large radioactive quantities, such as several AN/UDM-A1 calibration sources each containing approximately 62 curies of Cesium-137, a 390 curie Cesium-137 research source, and a 11,700 curie Cobalt-60 pool irradiator research source.

(d) Building T-387. This building was designated as the radioactive waste storage area which contained a variety of radioactive material to include a 429 curie Cobalt-60 source which was the largest radioactive source stored in this building.

(e) The radioactive sources in Buildings 9045, 9401, and T-387 were properly secured; the areas and radioactive material were posted with the appropriate warning signs and labels. Other required documents such as safety procedures and notices to the employees were also posted.

e. Industrial X-Ray Facilities.

(1) Charles Wood Area, Building 2700.

(a) Room 2D139. Located in this room was a 1.7 million electron volt accelerator system, made by General Ionex Corporation. This system was not being used at the time of the survey.

(b) Room 2D130. Located in this room were two 50 kilovolt peak/50 milliampere x-ray diffraction units, made by Norelco, and one electron microscope.

(c) Room 4C405. Located in this room was a 150 kilovolt peak/5 milliampere fluoroscopic x-ray inspection system, made by Torrex.

(d) Rooms 2C131 and 2D134. Located in each one of these rooms was a scanning electron microscope.

(2) Evans Area.

(a) Building 9401. Located in this building was a 320 kilovolt peak x-ray system, made by Seifert.

(b) Building 9011. Located in this building was a 150 kilovolt peak x-ray system, made by General Electric.

(3) The industrial x-ray systems were appropriately classified and conformed to the requirements of National Bureau of Standards (NBS) Handbooks 107, 111, and 114.

(4) Radiation warning signs and labels were properly posted and radiation safety instructions were available to the users of the equipment.

f. Records, Reports, and Surveys.

(1) Records indicated that onsite visits and inspections of bulk storage and depot-level maintenance facilities were being conducted to ensure compliance with NRC licenses and DARAs issued to HQ CECOM for radioactive commodities.

(2) Records indicated that adequate quality assurance procedures had been developed and implemented to verify the quality and integrity of radioactive commodities during their life cycle review.

(3) Inventory records of radioactive commodities and of radiation sources located on Fort Monmouth appeared adequate. The local fire department was provided a copy of the Fort Monmouth radioactive material inventory.

(4) Leak test records for radioactive commodities and radioactive sources at Fort Monmouth were available for review. The records indicated that sealed radioactive sources were leak tested as required by the NRC licenses issued to HQ CECOM.

(5) Records indicated that monthly wipe test surveys were not performed at the radioactive waste storage area, Building T-387, which contained unsealed radioactive sources.

(6) Records of monthly surveys, to include instrumentation and wipe test surveys, of all other areas where radiation sources were used or stored appeared adequate.

(7) Records indicated that initial and annual radiation safety training was provided to radiation workers; emergency response training was provided to Fort Monmouth and the local community fire department personnel.

(8) Calibration records for instrumentation used for health and safety monitoring of personnel and radiation sources appeared adequate.

5. DISCUSSION.

a. The DARA No. A29-10-01 expired 31 January 1984. Documentation was available to indicate that this DARA was submitted for renewal on 23 January 1984 by U.S. Army Electronics Research and Development Command and

subsequently resubmitted for renewal by CECOM on 10 July 1987; however, CECOM had nothing in writing to indicate that the U.S. Army Materiel Command (AMC) had received the renewal application and there was no documented follow-up on the DARA application.

b. In the opinion of the survey officers AMC should acknowledge, in writing, that the application submitted for renewal had arrived in a timely manner at its proper location. This would provide CECOM with assurance that AMC had received the application and whether any further actions are required by CECOM.

6. CONCLUSION. A review of the findings indicated that:

a. There were no health hazards resulting from the use and storage of ionizing radiation sources at Fort Monmouth.

b. The management of radioactive commodities in the DA supply system controlled by HQ CECOM and its related radiation protection program was conducted IAW regulatory requirements for radiation protection.

c. The overall radiation protection program at Fort Monmouth was being conducted IAW current directives for radiation protection, with the exception for which the following recommendation is provided.

7. RECOMMENDATIONS. Ensure that wipe test surveys of the radioactive waste storage area, Building T-387, are included as part of the monthly survey procedures [AMCR 385-25, paragraph 17b; and CECOM-R 385-18, paragraph 8b(2)].

8. REFERENCES. See Enclosure 2 for a list of references.

FOR THE COMMANDER:

2 Encls

MICHAEL W. MUELLER
MAJ, MS
Chief, Health Physics Division

CF:
HQDA(DASG-PSP)
Cdr, CECOM, ATTN: AMSEL-SF-RIR (2 cy)
Cdr, WRAMC, ATTN: PVNTMED Svc
Cdr, MEDDAC, Ft Monmouth, ATTN: PVNTMED Svc (2 cy)

HSHB-MR-HI
SUBJECT: Radiation Protection Survey No. 27-43-0160-88, U.S. Army Communications-Electronics Command, Fort Monmouth, New Jersey, 16-20 May 1988

A. NUCLEAR REGULATORY COMMISSION LICENSES MANAGED BY HQ CECOM

1. BML-29-01022-14, expiration 31 August 1992: Consolidated license for Department of Defense (DOD) use of calibration and operational check sources for radiation detection instrumentation and optical coating on thermal imaging devices. The license authorizes varying amounts of Cobalt-60, Cesium-137, Strontium-90, Plutonium-239, Thorium-230 and -232, Krypton-85 and Americium-241.

2. SNM-1323, expiration 31 October 1988: For Plutonium-238, thermo electric generator currently in storage for disposal.

3. BML-29-01022-07, expiration 31 May 1991: For use of a 225 curie Cobalt-60 irradiator and for storage of a 698 curie Cobalt-60 source and a 437 curie Cesium-137 source.

4. BML-29-01022-06, expiration 30 June 1992: For use of any byproduct material with atomic numbers 1-83 in varying amounts, for research and development as defined in section 30.4 (9) of Title 10, Code of Federal Regulations (CFR), Part 30.

5. BML-29-01022-10, expired 31 July 1987; however, license was timely submitted for renewal to the NRC on 8 July 1987: For storage of a 125,000 curie Cobalt-60 pool irradiator.

B. DEPARTMENT OF THE ARMY RADIATION AUTHORIZATIONS MANAGED BY HQ CECOM

1. A29-10-66, expiration 30 May 1989: For use of Radium-226 in radium painted commodities.

2. A29-10-10, expiration 31 May 1989: For use of Hydrogen-3 and Promethium-147 as an integral part of electron tubes incorporated into electronics or communication and article applications.

3. A29-10-12, expiration 31 October 1989: For use of Thorium-232 as thorium oxide in thoriated glass and fiber optic plates.

4. A29-10-01, expired 31 January 1984 (see Discussion, paragraph 5 of this report): For use of Radium-Beryllium, Radium-226, Cobalt-57, Polonium-210, and Plutonium-239. The radioactive materials are authorized to be used in Troxler Model 2184 Moisture/Density Group (Testers), for research and development, calibration of instruments, checking sources, and for cleaning of camera lenses and photographic equipment.

HSHB-MR-HI
SUBJECT: Radiation Protection Survey No. 27-43-0160-88, U.S. Army Communications-Electronics Command, Fort Monmouth, New Jersey, 16-20 May 1988

REFERENCES

1. AR 40-5, 30 August 1986, Preventive Medicine.

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

3. AR 385-11, 1 May 1980, Ionizing Radiation Protection (Licensing, Control, Transportation, Disposal, and Radiation Safety).

4. AR 385-30, 15 September 1983, Safety Color Code Markings and Signs.

5. AR 700-64, 19 April 1985, Radioactive Commodities in the DoD Supply Systems.

6. AMCR 385-25, 12 August 1968, Radiation Protection.

7. AMCR 385-30, 8 September 1970, Particle Accelerators.

8. CECOM-R 385-18, 19 March 1987, Safety Ionizing Radiation Protection Program.

9. Title 10, CFR, 1987 rev, Chapter I, Nuclear Regulatory Commission.

10. NBS Handbook 107, May 1979, Radiological Safety in the Design and Operation of Particle Accelerators.

11. NBS Handbook 111, May 1978, Radiation Safety for X-Ray Diffraction and Fluorescence Analysis Equipment.

12. NBS Handbook No. 114, February 1975, General Safety Standard for Installations Using Non-Medical X-Ray and Sealed Gamma-Ray Sources, Energies up to 10 MeV.

ENCL 2

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

REPLY TO
ATTENTION OF

15 APR 1988

HSHB-MR-HI

MEMORANDUM FOR: Commander, U.S. Army Communications-Electronics Command, Fort Monmouth, NJ 07703-5024

SUBJECT: Radiation Protection Survey of U.S. Army Communications-Electronics Command

1. In accordance with the reference, a Radiation Protection Survey (No. 27-43-0160-88) at CECOM, Ft Monmouth, NJ, has been scheduled for 16-20 May 1988. Coordination has been accomplished between Joseph Santarsiero, Chief, Radiation Safety, CECOM, and SSG Goodison, this Agency.

2. The survey will include an evaluation of the radiation protection program, the personnel dosimetry program, industrial x-ray facilities, military radioactive test and calibration sources, radioactive materials authorized by specific Nuclear Regulatory Commission Licenses and DA Authorizations, and any other ionizing radiation producing sources which may be located at CECOM.

3. The following individuals, with SSN and security clearance as indicated, will perform the survey:

a. Mr. Douglas G. Ashby, DAC, 566-54-2318, Health Physics Division, Health Physicist, Secret, NACI Compl 2 Jun 87 by OPM.

b. Scott G. Goodison, SSG, USA, 059-60-6878, Health Physics Division, Health Physics Specialist, Secret, ENTNAC Compl 14 Jan 81 by DIS.

4. Request an inventory of all ionizing radiation producing sources, copies of appropriate radiation protection program documents, and the name of a contact officer be made available at the time of the survey. [Exempt from reports control under AR 335-15, paragraph 5-2e(8).]

5. The survey officers may be contacted by AUTOVON 584-3502/3526.

6. Verification of security clearances can be made by contacting the USAEHA Security Manager, SSG Hale, AUTOVON 584-4158/4220.

7. Reference memo, HQ AMC, AMCSG-R, 8 July 1987, subject: Field Mission Services, FY 88, Program 27.

FOR THE COMMANDER:

ERIC G. DAXON
MAJ, MS
Chief, Health Physics Division

CF:
Cdr, AMC, ATTN: AMCSG
Cdr, CECOM, ATTN: AMSEL-SF
Cdr, MEDDAC, Ft Monmouth , ATTN: PVNTMED Svc