



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

Report No: 030-01746/94-01

Licensee: Department of the Army
U. S. Army Medical Research
Laboratory
Fort Knox, Kentucky 40121

Docket No: 030-01746

License No: 16-00380-03

Inspection Conducted: September 29, 1994

Inspector: *J. A. Mumper*
J. A. Mumper, Radiation Specialist

10/27/94
Date Signed

Approved by: *C. M. Hosey*
C. M. Hosey, Chief
Nuclear Materials Inspection Section
Nuclear Materials Safety and Safeguards Branch
Division of Radiation Safety and Safeguards

10/27/94
Date Signed

SUMMARY

Scope:

This announced inspection of terminated license no. 16-00380-03 included a visual inspection, a confirmatory closeout survey and a review of associated records to allow the release for unrestricted use of building 1025.

Results:

A visual inspection of building 1025 verified that licensed material and contaminated equipment, materials, scrap, etc. were not being used or stored. Confirmatory surveys to release building 1025 for unrestricted use indicated no contamination or radiation levels above background. Survey results for residual radiation and contamination indicate that building 1025 meets the requirements for unrestricted use given in U.S. Nuclear Regulatory Commission, Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material, Policy and Guidance Directive FC 83-23, Division of Industrial and Material Nuclear Safety, November 4, 1983 (as revised in 1987).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*Louis C. Barnhart, Chief, Hazardous Waste Section

*2Lt William P. Argo, Health Physicist

*Present at Exit Interview

2. Program Scope and Licensee Organization

Building 1025, Fort Knox, Kentucky was used for research involving radioactive material under U.S. Army Medical Research Laboratory license no. 16-00380-03. Activities in building 1025 were discontinued in approximately 1973. Upon release for unrestricted use, Building 1025 is scheduled to be used for a demonstration project involving asbestos abatement.

3. Closeout Inspection and Survey (83890)

A. Disposition of Material

During the inspection conducted on September 29, 1994, the inspector verified that licensed material and contaminated equipment, materials, scrap, etc. were not being stored or used in Building 1025.

B. Conduct of Confirmatory Survey

A confirmatory survey was performed in Building 1025 on September 29, 1994, to determine whether fixed or loose surface contamination existed above the guidelines given in U.S. Nuclear Regulatory Commission, Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material, Policy and Guidance Directive FC 83-23, Division of Industrial and Material Nuclear Safety, November 4, 1983 (as revised in 1987).

Ambient radiation surveys were performed using a Xetex 305B Survey Meter, Serial No. 07609, calibrated on May 13, 1994. Ambient radiation levels in Building 1025 were less than 0.1 millirem per hour in all areas which was consistent with the background ambient radiation level obtained outside of Building 1025.

Contamination surveys were performed by direct frisk using Ludlum Model 3 Serial No. 102129, calibrated on July 15, 1994. Approximately 10 percent of the floor, benches and lower wall

areas, as well as all exposed sink drains and air handling vents, were surveyed. No contamination levels above background were detected.

Contamination surveys were also performed using smears and liquid scintillation counting techniques. Thirty smears were taken in the areas shown on the attached survey map to identify residual carbon-14 and hydrogen-3 contamination. Smears analyzed using Packard Tricarb liquid scintillation counter serial no. 65182 showed no carbon-14 or hydrogen-3 contamination above background levels. The results of the loose surface contamination survey are attached.

C. Reports and Records

Records associated with the U.S. Army Medical Research Laboratory License No. 16-00380-03 were reviewed on September 29, 1994.

Inventory records for usage between January 1970 and June 1974 were reviewed and indicated that 500 microcuries of carbon-14 was stored in Building 1025 between October 1970 and December 1972, and approximately 2 millicuries of iron-59 was stored between January and March 1970.

Some Radiation Safety Committee meeting minutes were available to document usage of radioactive materials between September 1953 and March 1973 under License No. 16-00380-03. The records did not document any incidents, spills or other unusual occurrences in Building 1025.

4. Exit Interview

On September 29, 1994 an exit interview was conducted with the persons indicated in paragraph 1. Preliminary results of the confirmatory survey were discussed. The smear survey would require further analysis and results would be presented in formal documentation to the licensee. The licensee indicated that the remaining buildings associated with License No. 16-00380-03 would also be surveyed in the near future and would also be demolished.