



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

September 06, 2024

Dr. Robert Cherry, Radiation Safety Staff Officer
U.S. Army Installation Management Command
ATTN: IMSO/106, Bldg. 2261
2405 Gun Shed Road
JBSA Fort Sam Houston, TX 78234-1223

SUBJECT: NRC INSPECTION REPORT 040-09083/2024-003, JOINT BASE MCGUIRE-DIX-LAKEHURST, NJ

Dear Dr. Robert Cherry:

This letter refers to the routine announced inspection that the U.S. Nuclear Regulatory Commission (NRC) conducted on July 30, 2024, at Joint Base McGuire-Dix-Lakehurst, NJ. This inspection examined activities conducted under your license as they relate to public health and safety, the common defense and security, and to confirm compliance with the NRC's rules and regulations and the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, interviews with personnel, and site tours.

The inspection included a review of your implementation of the radiation safety plan, physical security plan, environmental radiation monitoring plan, and quality assurance project plan. An exit meeting was held with you, Jerome A Leffers, Range Safety Officer, and First Lieutenant Andrew Zimmerman, Garrison Radiation Safety Officer, at the conclusion of the onsite inspection on July 30, 2024. No violations were identified, and no response to this letter is required.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, its enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC's Website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response, if you choose to provide one, should not include any personal privacy or proprietary information so that it can be made available to the Public without redaction.

R. Cherry

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If you have any questions regarding this inspection report, please contact Harry Anagnostopoulos at 610-337-5322, or the undersigned at 817-200-1249.

Sincerely,



Signed by Warnick, Gregory
on 09/06/24

Gregory G. Warnick, Chief
Decommissioning, ISFSI, and Operating
Reactor Branch
Division of Radiological Safety and Security

Docket No. 040-09083
License No. SUC-1593

Enclosure:
NRC Inspection Report 040-09083/2024-003

NRC INSPECTION REPORT 040-09083/2024-003, JOINT BASE MCGUIRE-DIX-LAKEHURST, NEW JERSEY, DATED – SEPTEMBER 06, 2024

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robert.n.cherry.civ@army.mil

DOCUMENT NAME: NRC INSPECTION REPORT 040-09083/2024-003, JOINT BASE MCGUIRE-DIX-LAKEHURST, NEW JERSEY

ADAMS ACCESSION NUMBER: **ML24241A188**

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DATE	09/05/24	09/03/24	09/06/24	

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**U.S. NUCLEAR REGULATORY COMMISSION
REGION IV**

Docket No. 040-09083

License No. SUC-1593

Report No. 040-09083/2024-003

Licensee: U.S. Army Installation Management Command

Location Inspected: Joint Base McGuire-Dix-Lakehurst, New Jersey

Inspection Date: July 30, 2024

Inspector: H. Anagnostopoulos, Senior Health Physicist
Decommissioning, ISFSI, and Reactor HP Branch
Division of Radiological Safety and Security
Region I

Approved By: Gregory G. Warnick, Chief
Decommissioning, ISFSI, and Operating Reactor Branch
Division of Radiological Safety and Security
Region IV

Attachment: Supplemental Inspection Information

Enclosure

EXECUTIVE SUMMARY

U.S. Army Installation Management Command (IMCOM) NRC Inspection Report 040-09083/2024-003

The NRC performed an announced, routine inspection on July 30, 2024, at Joint Base McGuire -Dix-Lakehurst, NJ. The inspection included a review of records, procedures, and interviews with program personnel.

Broad Scope Academic and Research & Development Program

The inspector observed radiological postings, site access control, environmental monitoring, dose assessment for workers and the public, contamination and exposure control program, safety and security of licensed materials, and management oversight program. The inspector determined the licensee was conducting activities in compliance with regulatory requirements and license SUC-1593 requirements. No violations of NRC requirements and no deficiencies in the implementation of license program requirements were identified. (Section 1.2)

Report Details

Site Status

Fort Dix is the largest military installation in the northeastern United States. It covers 55 square miles in central New Jersey and is located 47 miles east of Philadelphia, Pennsylvania, and 17 miles southeast of Trenton, New Jersey.

Fort Dix currently consists of 31,065 acres of land, of which 13,765 acres are range and impact areas and 14,000 are classified as contiguous maneuver areas. The Fort Dix training areas are bordered by the Lebanon State Forest, Lakehurst Naval Air Engineering Center, and selected Wildlife Management Areas that enable the installation to simultaneously support combat, combat support, and combat service support training. McGuire Air Force Base is on the western edge of Fort Dix, and the Lakehurst Naval Air Engineering Station is on the eastern edge.

The Army's historical records review confirmed the presence of one range where Davy Crockett weapons system M101 spotting rounds, containing depleted uranium (DU), were used at Fort Dix. The M101 impact area (also the radiation control area) consists of 247.5 acres and is known as the Frankford Arsenal Range. The current Army estimate of DU at the range is a maximum of 10 kilograms (kg). The nearest normally occupied area to the Frankford Arsenal Range is located approximately 1.7 miles to the northwest.

The U.S. Army does not know if any historical cleanup or retrieval of these rounds (or their remnants) has occurred at the Frankford Arsenal Range; therefore, it is assumed that the 10 kg of DU remain at the range. As of the date of the inspection, no actual DU has been identified in or near the range. There have been no entries into the range's radiation control area in the last two years.

The site inspection was conducted using the applicable sections of Inspection Procedure (IP) 87126 Broad Scope Academic and Research & Development Program.

1 Broad Scope Academic and Research & Development Program (IP 87126)

1.1 Inspection Scope

The inspector toured the perimeter of the Frankford Arsenal Range, inspected radiological boundary postings, and observed the collection of environmental samples. The inspector reviewed the licensee's radiation monitoring program associated with workers and the public. The inspector reviewed the licensee's radiological survey and exposure control program. The inspector reviewed the licensee's safety and security of licensed materials as required under the license. The inspector reviewed the licensee's oversight including audits and discussed the training of garrison personnel with the license radiation safety officer.

1.2 Observations and Findings

a. Observation of Activities (Risk Module [RM]-1)

The inspector toured the accessible perimeter of the Frankford Arsenal Range, designated as a radiation control area (RCA), where the licensed material is suspected to be located. The inspector did not enter the range as hazards, such as unexploded ordinance, were present. The range had adequate postings mounted on poles such that they were clearly visible and with reasonable spacing such that they would be seen when approached. The inspector interviewed both the Range Safety Officer and the Garrison Radiation Safety Officer to verify that procedures were in place to ensure that personnel are reasonably prevented from unauthorized access to the range, and that appropriate safety practices are observed by all personnel who might be authorized to enter the area.

The inspector toured the two environmental sampling locations, SWS-13 and SWS-14, and observed the routine collection of surface water and sediment samples. The licensee's contractor, ARS Aleut Analytical, LLC, performed the sampling in accordance with the "Site-Specific Environmental Radiation Monitoring Plan Fort Dix, Joint Base McGuire-Dix-Lakehurst, New Jersey, Annex 16," dated March 2020. The inspector noted adequate sampling techniques and appropriate chain of custody controls were used in the conduct of sampling operations.

b. Assessment of Dose to Workers and the Public (RM-2)

As a result of the very small potential inventory of DU within the range, and because no DU has yet been identified in or near the range, there is currently no anticipated radiation exposure for routine activities at Fort Dix. The Army's garrison at Fort Dix is not required to have a routine external or internal radiation worker exposure program. The inspector verified, however, that Fort Dix does have procedures for RCA entry/exit and possess the necessary radiation detection instrumentation that is need needed for personnel radioactive contamination monitoring in the event that DU is found.

The licensee's environmental monitoring program consists of the collection of two sample locations designated SWS-13 and SWS-14 where surface water and sediment samples are taken and analyzed for isotopes of uranium. The inspector reviewed the results of previous sample analysis which are documented in the report "Radiation Monitoring Report Including Appendices Summary of Results for 2023 Sampling Events for Materials License SUC-1593, Docket No. 040-09083," dated May 2024. No detections of DU in environmental samples at Fort Dix were identified.

c. Surveys for Contamination and Exposure Control (RM-3)

Fort Dix has not identified any DU within or near the Frankford Arsenal Range, and there is no DU in storage or awaiting disposal. The garrison indicated that there have been no entries into the RCA in the last two years. As a result, there were no radiological surveys available for inspection.

The inspector noted that the garrison possessed radiation detection instrumentation such that if DU were found in the field, the garrison would be able to identify and control any associated radiological contamination. The inspector determined that the radiation detection instruments possessed by the licensee were appropriately calibrated.

The inspector observed the routine pre-use performance testing (i.e., “source checking”) of the Garrison RSO’s portable radiation protection survey instruments. Some difficulty was observed by the inspector during the source checking, and this observation was discussed with the License RSO who was present. The License RSO indicated that some additional training would be provided to the garrison staff in order to improve local proficiency at this task.

d. Safety and Security of Licensed Materials (RM-4)

The Army is authorized to possess a maximum of 10 kg of DU at Fort Dix. The Frankford Arsenal Range is posted to notify individuals that they would be entering an RCA, and the garrison has well-established access control procedures which serve to limit access to authorized personnel. In addition, entry into Fort Dix is controlled by base security staff.

e. Management Oversight (RM-5)

The inspector reviewed the licensee’s annual “Audit report TBM-D-L-2024 for license SUC-1593” dated May 8, 2024. The inspector noted that the audit was adequate and fulfilled license commitments. No significant deficiencies were identified by the license RSO in the audit report.

The inspector discussed training activities for the Garrison RSO and range staff with the license RSO. The inspector interviewed the Garrison RSO regarding their knowledge of radiation safety procedures. No concerns were identified.

1.3 Conclusions

The inspector observed radiological postings, site access control, environmental monitoring, dose assessment for workers and the public, contamination and exposure control program, safety and security of licensed materials, and management oversight program. The inspector determined the licensee was conducting activities in compliance with regulatory requirements and license SUC-1593 requirements. No violations of NRC requirements and no deficiencies in the implementation of license program requirements were identified.

2 Exit Meeting Summary

The inspector presented the results of the inspection to the License RSO and the Garrison RSO at the end of the onsite inspection on July 30, 2024. The Army did not identify any information that was received by the inspector as proprietary.

SUPPLEMENTAL INSPECTION INFORMATION

Partial List of Persons Contacted

Dr. Robert N. Cherry CHP, U.S. Army Installation Management Command, License Radiation Safety Officer

First Lieutenant Andrew Zimmerman, 87th Medical Group – Joint Base McGuire-Dix-Lakehurst, Garrison Radiation Safety Officer

Jerome A. Leffers, U.S. Army Support Activity Fort Dix, Range Safety Officer

Amanda Melloy, Aleut Federal LLC, environmental sampling contractor

INSPECTION PROCEDURES USED

IP 87126 Broad Scope Academic and Research & Development Programs

ITEMS OPENED, CLOSED, AND DISCUSSED

Open

None

Closed

None

Discussed

None

LIST OF ACRONYMS AND ABBREVIATIONS USED

ADAMS	Agencywide Documents Access and Management System
DU	Depleted Uranium
IMCOM	U.S. Army Installation Management Command
IP	Inspection Procedure
kg	kilogram
NRC	U.S. Nuclear Regulatory Commission
QAPP	Programmatic Quality Assurance Project Plan
RCA	Radiation Control Area
RM	Risk Module
RSO	Radiation Safety Officer