



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

July 27, 2022

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 040-09083/2022-002, FORT SILL, OKLAHOMA

Dear Dr. Cherry:

This letter refers to the routine, announced, U.S. Nuclear Regulatory Commission (NRC) inspection conducted on June 21-22, 2022, at Fort Sill, Oklahoma. 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 Commission'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 programmatic radiation safety plan, physical security plan, environmental radiation monitoring plan, and quality assurance project plan. An exit briefing was held with you and Clenis Blanton, garrison radiation safety officer, at the conclusion of the onsite inspection. No violations were identified, and no response to this letter is required.

In accordance with Title 10 of the *Code of Federal Regulations* (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 Agency-wide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <https://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy or proprietary information so that it can be made available to the Public without redaction.

Should you have any questions concerning this inspection, please contact Dr. Robert Evans, Senior Health Physicist, at (817) 200-1234 or the undersigned at (817) 200-1249.

Sincerely,



Signed by Warnick, Gregory
on 07/27/22

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 040-09083/2022-002

cc: w/Enclosure:
Mike.Broderick@deq.ok.gov

SUBJECT: NRC INSPECTION REPORT 040-09083/2022-002, FORT SILL, OKLAHOMA
DATED JULY 27, 2022

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cc:

robert.n.cherry.civ@army.mil

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U.S. NUCLEAR REGULATORY COMMISSION REGION IV

Docket No. 040-09083

License No. SUC-1593

Report No. 040-09083/2022-002

Licensee: U.S. Army Installation Management Command

Location: Fort Sill, Oklahoma

Date: June 21-22, 2022

Inspector: Robert J. Evans, PhD, CHP, PE, Senior Health Physicist
Decommissioning, ISFSI, and Operating Reactor Branch
Division of Radiological Safety and Security

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

Attachment: Supplemental Inspection Information

Enclosure

EXECUTIVE SUMMARY

U.S. Army Installation Management Command
NRC Inspection Report 040-09083/2022-002

The U.S. Nuclear Regulatory Commission (NRC) performed a routine, announced health and safety inspection from June 21-22, 2022, at Fort Sill, Oklahoma. The inspection included a review of records, interviews with site personnel, and observation of activities. The inspector concluded that the licensee was conducting activities in accordance with regulatory and license requirements.

Industrial/Academic/Research Programs

- The licensee implemented its various programmatic plans in accordance with license requirements. The Army continued to maintain security and control over the range that may contain depleted uranium, and the Army continued to implement a radiation safety program in accordance with license requirements. The licensee continued to implement its environmental monitoring program in accordance with license requirements. The results of environmental sampling indicate that depleted uranium was not migrating from the range. (Section 1.2)

Report Details

Site Status

In August 2005, the Department of the Army discovered remnants of munitions containing depleted uranium (DU) at the Schofield Army Barracks in Hawaii. These remnants were identified as the spotting rounds for the Davy Crockett Weapons System. As a result of this discovery, the U.S. Army Installation Management Command applied for an NRC license in 2008. In 2013, the NRC issued Source Material License SUC-1593 to the Army for possession of DU at two locations in Hawaii. The license was amended in 2016 to include 14 additional locations including Fort Sill, Oklahoma.

Fort Sill was established in 1869 as a cavalry fort. The fort later transitioned from cavalry to field artillery. The fort currently covers almost 94,000 acres. The Army trained with the Davy Crockett Weapons System from 1960-1968. The suspected range where the remnant DU may be located included training range FP 182/West Range. Records indicate that Fort Sill may have received and fired spotting rounds containing approximately 120 kilograms of DU.

At the time of the inspection, the Army has not identified or removed any DU from the range, in part, because the range is located within a larger range (West Range) that continues to be in use. The range where DU is suspected to be present was designated as a radiation control area (RCA). The Army controls access to the firing range, and personnel rarely enter the area for safety reasons.

1 Industrial/Academic/Research Programs (NRC Inspection Procedure 87126)

1.1 Inspection Scope

The objectives of the inspection were to determine if licensed activities were being conducted in a manner that was protective of the health and safety of workers and the public, and to determine if the licensed programs were being conducted in accordance with NRC regulatory and license requirements.

1.2 Observations and Findings

License SUC-1593, Condition 11 (Agency-wide Documents Access and Management System [ADAMS] Accession Nos. ML22070B083, ML22070B084, and ML22070B085), states that the licensee shall conduct operations in accordance with the commitments, representations, and statements contained in the following programmatic documents:

- Radiation safety plan (ML21343A032)
- Physical security plan (ML21165A014)
- Environmental radiation monitoring plan (ML21165A013)
- Quality assurance project plan (ML22110A204)

The radiation safety plan provides details of various aspects of radiological safety including radiation safety officer (RSO) qualifications, training, RCAs, authorized activities within RCAs, radiation safety standards, radiological surveys, supplemental environmental monitoring, inventory control, posting requirements, access control, container markings, instrumentation, program audits, recordkeeping, emergency planning, and operating procedures. The inspector reviewed the licensee's

implementation of the radiation safety plan and discussed the plan's requirements with key individuals.

The inspector confirmed that the garrison RSO was qualified per Section 2.4 of the radiation safety plan. The RCA training requirements for entry into the RCA as specified in Section 2.5 were not applicable since no one has entered the RCA since the license was revised in March 2016 to include Fort Sill as a location of use. Although radiological survey equipment was available for use, there have been no contamination surveys (Section 11) since 2016. The garrison RSO only had to maintain inventories per Section 13 for the one check source in its possession. The RCA was properly posted per Section 14 with "Caution, Radioactive Material" signs. Personnel postings (NRC Form 3) were available in key locations per Section 14.3 requirements. The installation had calibrated radiological survey equipment available for use if needed per Section 17. The licensee maintained records of instrument calibrations. Finally, the license RSO conducted routine, annual audits at Fort Sill in accordance with Section 19 of the radiation safety plan.

The inspector observed the status of the RCA. The property was not fenced, but seven warning signs were placed in a semi-circle around the area. The reverse side of the RCA was not posted because it was part of an active range, and personnel were not allowed to access this active range.

The site access control requirements are provided in Section 15 of the radiation safety plan and the physical security plan. The base provided overall security for access to the base. Range control staff provided an additional level of security for control of access to the active ranges. The installation allowed hunting on its property in the vicinity of the RCA, but the base controlled who was granted access to the base for hunting, and members of the public were not allowed to hunt on the base. The inspector concluded that security was adequate for the radiological hazards.

The environmental sampling requirements are provided in the environmental radiation monitoring plan as well as License Conditions 11, 17, and 18. Supplemental details for the sampling program are provided in the quality assurance project plan. The licensee is currently required to sample one location downstream of the RCA, a location designated as SWS-06A. The licensee's contractor conducted quarterly sampling between 2017 and 2020. Starting in 2021, the contractor collected samples on a semi-annual schedule as allowed by the license. The sampling included collection of one surface water sample and one stream bed sediment sample.

The inspector reviewed the sample results for 2017-2021. None of the sample results exceeded the respective action levels specified in License Condition 17 for the radioactivity ratio and Condition 18 for total concentration of uranium in the surface water samples.

The inspector observed the licensee's contractor collect the first semi-annual sample for 2022 at Fort Sill. The inspector concluded that the contractor followed the quality assurance project plan requirements. Unless the results exceed an action level, the results of the sampling event will be presented to the NRC in a combined report in 2023.

1.3 Conclusions

The licensee implemented its various programmatic plans in accordance with license requirements. The Army continued to maintain security and control over the range that may contain DU, and the Army continued to implement a radiation safety program in accordance with license requirements. The licensee continued to implement its environmental monitoring program in accordance with license requirements. The results of environmental sampling indicate that DU was not migrating from the range.

2 Exit Meeting Summary

The inspector presented the inspection findings to the licensee's representatives at the conclusion of the onsite portion of the inspection on June 22, 2022. During the inspection, the licensee did not identify any information reviewed by the inspector as proprietary.

SUPPLEMENTAL INSPECTION INFORMATION

Partial List Of Persons Contacted

Licensee Personnel

Robert Cherry, Army RSO
Clenis Blanton, Garrison RSO
Dana Winslow, Field Sampler, Leidos
Jamie Johnson, Environmental Engineer, Leidos

Inspection Procedures Used

IP 87126 Industrial/Academic/Research Programs

Items Opened, Closed and Discussed

Opened

None

Closed

None

Discussed

None

List of Acronyms

ADAMS	Agencywide Documents Access and Management System
CFR	<i>Code of Federal Regulations</i>
DU	depleted uranium
IP	NRC Inspection Procedure
NRC	U.S. Nuclear Regulatory Commission
RCA	Radiation Controlled Area
RSO	Radiation Safety Officer