



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

July 8, 2021

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 040-09083/2021-001, FORT POLK, LOUISIANA

Dear Dr. Cherry:

This letter refers to the routine, unannounced U.S. Nuclear Regulatory Commission (NRC) inspection conducted on June 21-22, 2021, at Fort Polk, Louisiana. 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, and interviews with personnel.

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, Col. Samuel Smith, Commander, and Clifford Person, 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>.

Dr. Cherry

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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) 200-1243.

Sincerely,



Signed by Gaddy, Vincent
on 07/08/21

Vincent Gaddy, Chief
Materials Licensing & Decommissioning Branch
Division of Nuclear Materials Safety

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

Enclosure:
NRC Inspection Report 040-09083/2021-001

cc: w/Enclosure:
J. Daulat, Louisiana Dept. of Environmental Quality

SUBJECT: NRC INSPECTION REPORT 040-09083/2021-001, FORT POLK, LOUISIANA,
DATED JULY 8, 2021

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cc:

Jeff.dauzat@la.gov

robert.n.cherry.civ@mail.mil

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

Docket No. 040-09083
License No. SUC-1593
Report No. 040-09083/2021-001
Licensee U.S. Army Installation Management Command
Location Fort Polk, Louisiana
Date June 21-22, 2021
Inspector Robert J. Evans, PE, CHP, PhD, Senior Health Physicist
Materials Licensing and Decommissioning Branch
Division of Nuclear Materials Safety
Approved by Vincent Gaddy, Chief
Materials Licensing and Decommissioning Branch
Division of Nuclear Materials Safety
Attachment Supplemental Inspection Information

EXECUTIVE SUMMARY

U.S. Army Installation Management Command
Fort Polk, Louisiana
NRC Inspection Report 040-09083/2021-001

The U.S. Nuclear Regulatory Commission (NRC) performed a routine, unannounced health and safety inspection on June 21-22, 2021, at Fort Polk, Louisiana. The inspection included a review of records and interviews with site personnel. The inspector concluded that the licensee was conducting licensed 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 two ranges 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 two ranges. (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 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 current revision of the license, Amendment 6 dated June 15, 2021 (Agencywide Documents Access and Management System [ADAMS] Accession Nos. ML21165A043 and ML21165A043), lists 16 Army installations throughout the U.S. where these spotting rounds have been, or may have been, used.

Fort Polk, Louisiana, is one of sixteen locations specified in the license where DU may be present. Fort Polk became an infantry training center in 1962. Records indicate that Davy Crockett Weapon System training was provided at Fort Polk from 1965-1968. The Army's records indicate that spotting rounds were fired at Range 33 and possibly Range 34A. Based on the Army's records, up to 370 kilograms of DU may be present at Fort Polk. At the time of this inspection, the Army had not positively identified any DU or other remnants of the Davy Crockett weapon firings at Fort Polk, but the Army continues to manage the two ranges with the assumption that the areas contain DU. The Army strictly controls access to the two firing ranges, and personnel rarely entered the areas 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 general public, and to determine if licensed programs were being conducted in accordance with NRC regulatory and license requirements.

1.2 Observations and Findings

License Condition 11 states that the licensee shall conduct operations in accordance with the commitments, representations, and statements contained in the following programmatic documents:

- Radiation Safety Plan (ML20227A010)
- Physical Security Plan (ML21165A014)
- Environmental Radiation Monitoring Plan (ML21165A013)
- Quality Assurance Project Plan (ML21049A065)

The Radiation Safety Plan provides details of various aspects of the radiological safety requirements including radiation safety officer (RSO) qualifications, training, radiation control areas, authorized activities within radiation control areas, 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 had the qualifications for the position. Training was provided as needed including awareness training for selected employees. At the time of the inspection, the licensee had not discovered or recovered any DU from the two ranges, thus, the licensee did not have any DU in storage and had not shipped any DU for disposal. Further, there were no changes to the radiologically restricted areas due to discovery of DU outside of the current restricted area boundaries. No personnel or equipment were scanned or swipe tested for contamination, because the restricted area was not routinely accessed by personnel or equipment. Since there were no entries into the restricted area, and based on recent environmental sample results, there were no assigned doses to workers or individuals members of the public. The licensee continued to maintain calibrated instrumentation to support activities involving DU, if needed. Finally, the garrison RSO conducted routine audits of the radiation safety program, most recently in early June 2021.

The inspector noted that Section 12.2 of the Radiation Safety Plan indicated that the garrison would sample the drinking water for uranium concentrations. Representatives for the garrison stated that the base had three separate municipal water systems, but they did not test the drinking water for uranium concentrations. However, the water was being routinely tested for gross alpha, gross beta, and radium radioactivity levels. Recent sample results indicate that the drinking water did not contain radioactivity in concentrations above the maximum contaminant levels established by the U.S. Environmental Protection Agency.

The Physical Security Plan provides the access control requirements. In summary, the Army controlled access to the base and area control for the ranges themselves. Although the inspector was unable to visually observe the ranges, due to ongoing maneuvers, the licensee provided photographs of the area postings and gates at Ranges 33 and 34A. As noted in the photographs, the gates were locked and posted at the time of the photographs. The ranges were also posted at that time with caution-radioactive signs as required by License Condition 15.

The environmental sampling requirements are provided in the Environmental Radiation Monitoring Plan as well as License Conditions 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 at Fort Polk, designated as SWS-04, on a semi-annual basis for the presence of DU. The Army collected surface water and sediment samples from a stream located down-gradient from Ranges 33 and 34A. Prior to 2021, the licensee was required to sample for DU quarterly at this location.

Prior to the inspection, the NRC staff reviewed the licensee's sample results for sampling conducted at all bases, including Fort Polk, from 2017-2019. The NRC's conclusions are provided in a letter to the licensee dated June 10, 2020 (ML20160A382). The NRC noted that all sample results were less than the uranium-238 to uranium-234 ratio of 3.0 as specified in License Condition 17. In other words, no sample contained DU in measurable concentrations. Several water sample results exceeded the action level of 30 micrograms of uranium per liter of water, as specified in the Quality Assurance Project Plan, but water samples collected from Fort Polk did not exceed this action level.

The inspector reviewed the quarterly sample results for 2020 and discussed the results with licensee representatives. These sample results were submitted to the NRC by correspondence dated April 13, 2021 (ML21126A050, ML21126A051). The quarterly results for samples obtained from Fort Polk were either non-detectable or less than the ratio provided in License Condition 17. The water sample results were less than the 30 micrograms of uranium per liter of water limit of provided in the Quality Assurance Project Plan.

Sample station SWS-04 was last sampled in March 2021. The Army's representatives indicated that the results were less than the DU ratio and water concentration limits provided in the license and Quality Assurance Project Plan. The Army plans to voluntarily submit the results of all samples collected during 2021 to the NRC in calendar year 2022, including the two semiannual samples collected at Fort Polk.

Section 2.3 of the Fort Polk Environmental Radiation Monitoring Plan states that if an area of soil greater than 25-square meters erodes from a radiation control area, the licensee will sample that deposit for presence of DU. The Army RSO informed the inspector that the terrain at Fort Polk was not conducive for erosion; however, the RSO acknowledged that it did not have a written plan for monitoring for erosion. Although this finding was not safety significant, the inspector discussed with Army representatives the need to reconsider whether an erosion monitoring program was necessary at Fort Polk.

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 two ranges 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 two ranges.

2 Exit Meeting Summary

The inspector presented the inspection findings to the licensee at the conclusion of the onsite portion of the inspection on June 22, 2021. 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
Col. Samuel Smith, Commander, Fort Polk
Clifford Person, Acting Safety Manager
Christopher Boyd, Safety Specialist

Louisiana Department of Environmental Quality

Sal Ange, Environmental Scientist

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
RSO	Radiation Safety Officer