



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

November 9, 2021

Dr. Robert Cherry  
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 - 003, FORT CAMPBELL,  
KENTUCKY

Dear Dr. Cherry:

This letter refers to the routine, announced U.S. Nuclear Regulatory Commission (NRC) inspection conducted on September 8, 2021, at Fort Campbell, Kentucky. 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 NRC approved radiation safety plan, physical security plan, environmental radiation monitoring plan, and quality assurance project plan. An exit briefing was held with you, Harvey Jones, Installation Safety Director, and David P. Peters, 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 to 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 NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC website at <http://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.

Dr. Cherry

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Should you have any questions concerning this inspection, please contact Orysia Masnyk Bailey, Health Physicist, at (864) 427-1032 or the undersigned at (817) 200-1156.

Sincerely,



Signed by O'Keefe, Cornelius  
on 11/09/21

Neil O'Keefe, Chief  
Materials Licensing & Decommissioning Branch  
Division of Nuclear Materials Safety

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

Enclosure:  
NRC Inspection Report 040-09083/2021-003

cc: w/enclosure:  
M. McKinley, Kentucky Cabinet for Health & Family Services

NRC INSPECTION REPORT 040-09083/2021-002, FORT CAMPBELL, KENTUCKY,  
DATED - NOVEMBER 09, 2021

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

Docket No. 040-09083  
License No. SUC-1593  
Report No. 040-09083/2021-003  
Licensee U.S. Army Installation Management Command  
Location Fort Campbell, Kentucky  
Date September 8, 2021  
Inspector Orysia Masnyk Bailey, Health Physicist  
Decommissioning, ISFSI, and Reactor HP Branch  
Division of Radiological Safety and Security  
Region I  
Approved by Neil O'Keefe, Chief  
Materials Licensing and Decommissioning Branch  
Division of Nuclear Materials Safety  
Attachment Supplemental Inspection Information

## **EXECUTIVE SUMMARY**

U.S. Army Installation Management Command  
Fort Campbell, Kentucky  
NRC Inspection Report 040-09083/2021-003

The U.S. Nuclear Regulatory Commission (NRC) conducted a routine, announced health and safety inspection on September 8, 2021, at Fort Campbell, Kentucky. The inspection included a tour of the site, review of records, and interviews with site personnel. The inspector concluded that the licensee was conducting licensed activities in accordance with approved procedures, license requirements, and applicable NRC regulations.

### **Industrial/Academic/Research Programs**

- The licensee implemented its NRC-approved programmatic plans in accordance with license requirements. The Army continued to maintain security and control over a range that may contain depleted uranium, and the Army continued to implement a radiation safety program in accordance with license requirements. In addition, the licensee continued to implement its environmental monitoring program in accordance with license requirements..

## 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 ML21165A044), lists 16 Army installations throughout the U.S. where these spotting rounds have been, or may have been, used.

Fort Campbell, Kentucky, is one of sixteen locations specified in the license where DU may be present. One range was identified at Fort Campbell where training with spotting rounds may have occurred. This range is Range 47, an active live fire range.

The Army had not positively identified any DU at Fort Campbell, and the Army continued to manage Range 47 with the assumption that the area contains DU. The Army strictly controls access to the base and the range, and personnel rarely entered the area for safety reasons. The approaches to the area (Observation Points 3 through 5) are well marked with "CAUTION RADIOACTIVE MATERIALS" signs.

## **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 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 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 as specified in Section 2 of the Radiation Safety Plan. The training requirements are provided in Section 20 of the Radiation Safety Plan. Radiation safety training was provided online to range control staff, and DU awareness briefings were provided to safety and range control staff. Refresher training is provided annually.

At the time of the inspection, the licensee had not discovered or recovered any DU from the Range 47, 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.

In accordance with Section 17 of the Radiation Safety Plan, the licensee maintained calibrated radiological survey meters for use as needed. The licensee also maintained exempt quantity radioactive check sources to verify instrument functionality. The licensee established action levels for survey results, and the garrison RSO would collect swipe samples if any survey result exceeded the action level. The garrison RSO conducted annual audits as required by Section 19 of the Radiation Safety Plan.

The Physical Security Plan provides the access control requirements. The Army controlled access to the base and provided area control for Range 47 itself. The inspector observed the radiation postings and security controls at each of the four access areas to Range 47 involved. Although the area was not fenced, the area was posted with "danger" and "caution-radioactive material" signs. The garrison RSO stated that there were no routine entries into the restricted areas. In summary, the garrison was adequately controlling access to the two restricted areas in accordance with the Physical Security Plan.

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 inspector reviewed the sampling records for 2020. Samples were taken on March 3, May 26, September 9, and October 28, 2020. During the quarterly sampling events, co-located water and sediment samples were taken from one point downstream, in Noah's Spring Branch, from the radiation controlled area. All sample results exhibited U-238/U-234 activity ratios less than the 3.0 limit provided in Condition 17 of the license.

### 1.3 Conclusions

The licensee implemented its NRC-approved 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. In addition, the licensee continued to implement its environmental monitoring program in accordance with license requirements.

## **2 Exit Meeting Summary**

The inspector presented the inspection findings to the licensee at the conclusion of the onsite portion of the inspection on September 8, 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  
Harvey Jones, Installation Safety Director  
David Peters, Garrison RSO

#### 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