



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

August 22, 2022

EA-22-044

Christian Patterson  
Commander  
Department of the Army  
Corps of Engineers  
3909 Halls Ferry Road  
Vicksburg, MS 39180

SUBJECT: NRC INSPECTION REPORT 030-05062/2021-001

Dear Colonel Patterson:

This letter refers to the announced routine inspection conducted on October 19, 2021, at your facility in Vicksburg, Mississippi, with continued in-office review through June 16, 2022. The inspection was performed to examine activities conducted under your license as they relate to public health and safety and to confirm compliance with the U.S. Nuclear Regulatory Commission (NRC) rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, independent radiation measurements, and interviews with personnel. The enclosed inspection report presents the results of this inspection. The preliminary inspection findings were discussed with your radiation safety officer (RSO) at the conclusion of the onsite portion of the inspection. On August 9, 2022, a final exit meeting was conducted telephonically with you and other members of your staff.

Based on the results of this inspection, one apparent violation was identified and is being considered for escalated enforcement action in accordance with the NRC Enforcement Policy. The current NRC Enforcement Policy is included on the NRC website at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>.

The apparent violation involved a failure to name a qualified individual as the RSO. The circumstances surrounding the apparent violation, the significance of the issue, and the need for lasting and effective corrective action were discussed during the August 9, 2022, exit meeting.

Before the NRC makes its enforcement decision, we are providing you an opportunity to:

- (1) respond in writing to the apparent violation addressed in the inspection report within 30 days of the date of this letter;
- (2) request a predecisional enforcement conference (PEC); or
- (3) request alternative dispute resolution (ADR) mediation. If a PEC is held, it will be open for public observation and the NRC may issue a press release to announce the time and date of the conference. Please contact Dr. Lizette Roldán-Otero, Chief, Materials Inspection Branch, at 817-200-1455 or by email at [Lizette.Roldan-Otero@nrc.gov](mailto:Lizette.Roldan-Otero@nrc.gov) within 10 days of the date of this letter to notify the NRC of your intended response to either provide a written response,

participate in a PEC, or pursue ADR. A PEC should be held within 30 days of the date of this letter and an ADR session within 45 days of the date of this letter.

If you choose to provide a written response, it should be clearly marked as a "Response to Apparent Violation in NRC Inspection Report 030-05062/2021-001; EA-22-044" and should include: (1) the reason for the apparent violation or, if contested, the basis for disputing the apparent violation; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken, and (4) the date when full compliance will be achieved. Your response may reference or include previously docketed correspondence if the correspondence adequately addresses the required response. 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.

Your written response, should you choose to provide one, should be sent to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy mailed to Mary C. Muesle, Director, Division of Radiological Safety and Security, Region IV, 1600 East Lamar Boulevard, Arlington, Texas, 76011, and emailed to [R4Enforcement@nrc.gov](mailto:R4Enforcement@nrc.gov) within 30 days of the date of this letter. If an adequate response is not received within the time specified or an extension has not been granted by the NRC, the NRC will proceed with its enforcement decision or schedule a PEC.

If you choose to request a PEC, the conference will afford you the opportunity to provide your perspective on this matter and any other information that you believe the NRC should take into consideration before making an enforcement decision. The decision to hold a PEC does not mean that the NRC has determined that a violation has occurred or that enforcement action will be taken. This conference would be conducted to obtain information to assist the NRC in making an enforcement decision.

The topics discussed during the conference may include information to determine whether a violation occurred, information to determine the significance of a violation, information related to the identification of a violation, and information related to any corrective actions taken or planned. In presenting your corrective actions, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violations. The guidance in NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful in preparing your response. You can find the Information Notice using Agencywide Documents Access and Management System (ADAMS) Accession No. ML061240509.

In lieu of a PEC or written response, you may request ADR with the NRC in an attempt to resolve this issue. Alternative dispute resolution is a general term encompassing various techniques for resolving conflicts using a neutral third party. The technique that the NRC has decided to employ is mediation. Mediation is a voluntary, informal process in which a trained neutral mediator works with parties to help them reach resolution. If the parties agree to use ADR, they select a mutually agreeable neutral mediator who has no stake in the outcome and no power to make decisions. Mediation gives parties an opportunity to discuss issues, clear up misunderstandings, be creative, find areas of agreement, and reach a final resolution of the issues.

Additional information concerning the NRC's ADR program can be obtained at <http://www.nrc.gov/about-nrc/regulatory/enforcement/adr.html> as well as NRC brochure NUREG/BR-0317, "Enforcement Alternative Dispute Resolution Program" Revision 2, (ML18122A101). The Institute on Conflict Resolution at Cornell University has agreed to facilitate the NRC's program as a neutral third party. Please contact the Institute on Conflict Resolution at 877-733-9415 within 10 days of the date of this letter if you are interested in pursuing resolution of this issue through ADR.

Please be advised that the number and characterization of apparent violations described in the enclosed inspection report may change as a result of further NRC review. You will be advised by separate correspondence of the results of our deliberations on this matter.

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 ADAMS, accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions regarding this matter, please contact Dr. Lizette Roldán-Otero of my staff at 817-200-1455.

Sincerely,



Signed by Muessle, Mary  
on 08/22/22

Mary C. Muessle, Director  
Division of Radiological Safety and Security

Docket No. 030-05062  
License No. 23-01544-10

Enclosure:  
NRC Inspection Report 030-05062/2021-001

cc w/encl.:  
Ronald Rogers, Director  
Division of Radiological Health  
Mississippi State Department of Health  
3150 Lawson Street, P.O. Box 1700  
Jackson, MS 39215-1700

NRC INSPECTION REPORT 030-05062/2021-001 - DATED AUGUST 22, 2022

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By: JGK	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> Non-Sensitive	<input checked="" type="checkbox"/> Publicly Available		NRC-002
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NAME	LRoldanOtero	JGroom	DCylkowski	RSun	PSnyder	MMuessle
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**U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV**

Docket No.: 030-05062

License No.: 23-01544-10

Inspection Report No.: 030-05062/2021-001

EA No: EA-22-044

Licensee: Department of the Army  
Corps of Engineers

Location Inspected: 3909 Halls Ferry Road  
Vicksburg, Mississippi

Inspection Dates: October 19, 2021 through June 16, 2022

Exit Meeting Date: August 9, 2022

Inspector: Randolph Ragland, Jr.  
Senior Health Physicist  
Division of Radiological Safety and Security  
Region I

Approved By: Lizette Roldan-Otero, PhD, Chief  
Materials Inspection Branch  
Division of Radiological Safety and Security  
Region IV

Attachment: Supplemental Inspection Information

Enclosure

## **EXECUTIVE SUMMARY**

### **Department of the Army, Corps of Engineers** **NRC Inspection Report 030-05062/2021-001**

#### **Program Overview**

The Department of the Army, Corps of Engineers (licensee) is authorized by NRC license number 23-01544-10 for research and development (R&D) activities and possession of 11 isotopes in microcurie to millicurie amounts for use in laboratory tracer studies, and also depleted uranium.

The license named eight Authorized Users (AU's) as the only individuals authorized to use or supervise use of materials, and an RSO (Radiation Safety Officer). Only one laboratory was used for radioactive materials tracer studies, with four active AU's. At the time of inspection, the licensee possessed approximately 80 millicuries of unsealed carbon-14, 16 millicuries of unsealed hydrogen-3, microcurie quantities of nickel-63, cadmium-109, and depleted uranium under the license. (Section 1)

#### **Inspection Findings**

During the announced onsite NRC inspection, conducted on October 19, 2021, the inspector identified that the individual named as RSO on the NRC license was no longer employed or considered RSO as of January 1, 2021. The licensee internally approved an appointment for a replacement RSO on January 29, 2021. However, the replacement RSO was not qualified to be RSO, and the licensee did not request review and approval of the RSO change on the NRC license prior to the internal appointment. (Section 2)

#### **Corrective Actions**

The license was amended on June 16, 2022, to Amendment No. 32, listing the new RSO in License Condition 11.C. One of the licensee's choices for response to this letter and inspection report is expected to detail corrective actions that have been or will be implemented to prevent recurrence. (Section 3)

## REPORT DETAILS

### **1 Program Overview (Inspection Procedure (IP) 87126)**

#### 1.1 Program Scope

The Department of the Army, Corps of Engineers (licensee) is authorized by NRC license number 23-01544-10 as a research and development type of licensee, authorized to possess 11 isotopes in microcurie to millicurie amounts for use in laboratory tracer studies, as well as depleted uranium. Since the previous NRC inspection in 2016, materials possessed or used under the NRC license were millicurie quantities of hydrogen-3 and carbon-14, microcurie quantities of nickel-63, cadmium-109, and depleted uranium.

Since 2016, the number of laboratories authorized for materials use was reduced from 10 labs to one, and the number of authorized users (AU's) was reduced from five to four. Due to the COVID-19 public health emergency (PHE) all use of radioactive materials had been suspended from early in calendar year 2020, no materials were used, accessed, or handled until after June 16, 2022.

#### 1.2 Inspection Scope

This announced inspection consisted of tours of the facility in Vicksburg, Mississippi, reviews of program records, and interviews with the Radiation Safety Officer (RSO).

#### 1.3 Observations

The inspector observed the one remaining laboratory where radioactive materials were used or stored. That laboratory had been dormant since the suspension of work due to the COVID-19 PHE. The inspector toured the lab and found that the materials were properly secured from unauthorized access, radioactive material inventories were being maintained, and the lab and radioactive material storage areas had proper area postings. A radiation dosimetry program was being maintained but was essentially dormant at the time of the inspection due to the suspension of work.

The previous inspection, conducted on March 2, 2016, identified a violation involving the failure to annually review the radiation protection program content and implementation in 2014 and 2015. In response to the violation the licensee developed checklists and a shared computer drive for uploading required documents to, to help ensure the radiation protection program content and implementation was reviewed annually.

The inspector identified that the AU's had completed checklists to review a part of the program implementation from 2016 to 2021 using a checklist, "Inspection Checklist For Areas Where Unsealed Radioactive Sources Are Used or Stored." However, records of reviews of staff dosimetry results and radiation safety meeting minutes or other RSO program reviews were requested multiple times by NRC staff but were not available for review. The licensee believed reviews occurred but did not have the requested documentation to demonstrate that comprehensive annual reviews of the radiation protection program content and implementation had been performed. Therefore, the previous violation (030-05062/2016-001-01) is not considered closed, and the corrective actions committed to will be reviewed during a future inspection.

## 2 Inspection Findings (87126)

During the onsite inspection on October 19, 2021, the inspector identified that the individual named as RSO on the NRC license was no longer employed or considered RSO as of January 1<sup>st</sup>, 2021. After the previous RSO left, the licensee internally approved an appointment for a replacement RSO on January 29, 2021. However, the licensee did not request a review and approval of the RSO change on the NRC license prior to the internal appointment. This issue was identified as an apparent violation of NRC Materials License number 23-01544-10.

### 2.1 Observations

The NRC received a license amendment request dated October 29, 2021, from the licensee requesting that the internally appointed replacement RSO be named on Amendment No. 32 of the license. During the NRC's license amendment review of the replacement RSO's qualifications it was determined and communicated to the licensee, on April 6, 2022, that the new RSO did not have adequate experience to be listed as RSO on the NRC license.

To facilitate the new RSO gaining adequate experience, the RSO visited a U.S. Army Test, Measurement and Diagnostic Laboratory for 3 days, May 3-5, 2022, and engaged in detailed discussions and hands-on training. Specifically training occurred in: planning and conducting surveys for routine materials use and contamination controls; familiarity with how the AU's named on the license document handling and use of radioactive materials; and familiarity with the chemical compositions of isotopes that have been used under the license since the previous inspection.

In addition, the new RSO had completed an Army RSO training course and worked as the Assistant RSO shadowing the previous RSO prior to January 2021, took an additional RSO training course taken in October 2021, and gained experience during the internal appointment as RSO. This experience was accepted by the NRC as adequate, and the license was amended to name the qualified RSO on June 16, 2022.

The internal position appointment for the replacement RSO occurred less than 30-days after the previous RSO left, in January 2021 during the COVID-19 PHE. The 3-day hands-on training in May 2022 occurred less than 30-days after it was determined by the NRC additional qualifications were needed. The unqualified RSO had provided oversight for the program from January 2021 through May 2022, a period of 17 months during which all use or handling of materials had ceased.

The apparent cause of the apparent violation was the licensee's failure to follow internal procedures. Specifically, Center Regulation No. 385-1-3, "Radiological Safety" dated March 1, 2013, states, in part, in Section 7.b. that designated RSO's must be technically qualified by education, training, and/or professional experience as stated in Engineer Manual 385-1-80, "Ionizing Radiation Protection Manual" dated June 30, 2010, and that the RSO's qualifications must be approved by the HQUSACE (Headquarters U.S. Army Corps of Engineers) Safety and Occupational Health Office.

The NRC requested the documented qualification approval from the licensee multiple times; however, the licensee was unable to provide the requested documentation. The new RSO's qualifications were not reviewed by the HQUSACE Safety and Occupational

Health Office prior to their appointment, and an approval document from HQUSACE was not obtained prior to the licensee's internal appointment of the new RSO.

2.2 Apparent Violation of NRC License No. 23-01544-10, Amendment No. 31, Condition 11 C.

License Condition 11C of NRC License 23-01544-10, Amendment 31, listed a qualified individual as the named Radiation Safety Officer (RSO).

Contrary to the above, from January 1, 2021, to June 16, 2022, the licensee failed to have the qualified individual as the named RSO. Specifically, the licensee appointed an unqualified individual to replace the named RSO, who retired on January 1, 2021, and did not request an NRC license amendment to change the named RSO until after an NRC inspection in October 2021.

The licensee's failure to list a qualified individual as the named RSO on the license is an apparent violation of NRC License No. 23-01544-10. (030-05062/2021-001-01)

**3 Corrective Actions**

The license was amended on June 16, 2022, to Amendment No. 32, listing the new RSO in License Condition 11 C. One of the licensee's choices for response to this letter and inspection report is expected to detail corrective actions that have been or will be implemented to prevent recurrence.

**4 Exit Meeting Summary**

On August 9, 2022, a telephonic exit meeting was conducted with: Colonel Christian Patterson, Commander; Michael Harding, Chief, Safety and Environmental Management Office; Julie Clements, Health Physicist, Radiation Safety Office; Darrel Wright, RSO; and Adam Corley, Safety and Occupational Health Specialist. The licensee acknowledged the apparent violation and did not dispute the details presented during the exit call.

## **Supplemental Inspection Information**

### PARTIAL LIST OF PERSONS CONTACTED

Colonel Christian Patterson, Commander  
Michael Harding, Chief, Safety and Environmental Management Office  
Julie Clements, Health Physicist, Radiation Safety Office  
Darrel Wright, RSO, Safety and Occupational Health Manager  
Adam Corley, Safety and Occupational Health Specialist

### INSPECTION PROCEDURE USED

IP 87126: Industrial/Academic/Research Programs

### ITEMS OPENED, CLOSED, AND DISCUSSED

#### Opened

030-05062/2021-001-01      AV      Failure to maintain license with qualified RSO

#### Closed

None

#### Discussed

030-05062/2016-001-01      SL-IV NOV      Failure to perform annual program reviews

### LIST OF ACRONYMS USED

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
ADAMS	Agencywide Documents Access and Management System
AU	Authorized User
COVID-19	coronavirus disease discovered in 2019
HQUSACE	Headquarters U.S. Army Corps of Engineers
IP	Inspection Procedure
NRC	U.S. Nuclear Regulatory Commission
PHE	Public Health Emergency
RSO	Radiation Safety Officer
R&D	Research and Development