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

May 6, 2020

Lt. Col. Alan C. Hale
USAF Radioisotope Committee
AFMSA/SG3PB
7700 Arlington Blvd., Suite 5151
Falls Church, VA 22042

SUBJECT: ROBINS AIR FORCE BASE - ROBBINS AIR FORCE BASE - NRC INSPECTION REPORT 030-28641/2019-003

Dear Lt. Col. Hale:

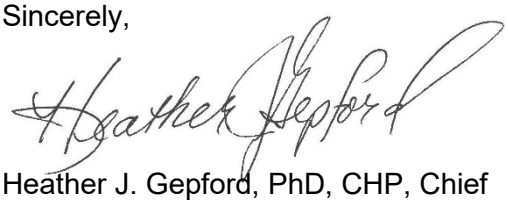
This letter refers to the U.S. Nuclear Regulatory Commission (NRC) inspection conducted on site July 22-23, 2019, at Robins Air Force Base, Georgia, with in-office review of Phase 2 Final Status Survey (FSS) Report for Building 181 during the week of February 24-28, 2020. This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, performance of independent radiological surveys, and interviews with personnel. The enclosed report presents the results of this inspection.

The inspection included a review of decommissioning activities being conducted at Building 181 under Air Force Permit GA-00462-03/03AFP. The inspection results were discussed with you on March 10, 2020. 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 Web Site 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.

Should you have any questions regarding this inspection, please contact Marti Poston-Brown at 817-200-1181, or the undersigned at 817-200-1156.

Sincerely,



Heather J. Gepford, PhD, CHP, Chief
Materials Licensing and Inspection Branch
Division of Nuclear Materials Safety

Docket No.: 030-28641
License No.: 42-23539-01AF

Enclosure:
Inspection Report for
Permit GA-00462-03/03AFP

U.S. NUCLEAR REGULATORY COMMISSION REGION I

Docket No.:	030-28641
License No.:	42-23539-01AF
Report No.:	030-28641/2019-003
Licensee:	Surgeon General of the Air Force Air Force Medical Support Agency
Permittee:	GA-00462-03/03AFP
Location:	420 Richards Ray Boulevard, STE 100 Robins Air Force Base, Georgia 31098-1640
Dates:	Onsite inspections on July 22-23, 2019, with in-office review February 24-28, 2020
Inspector:	Orysia Masnyk-Bailey, Health Physicist Decommissioning, ISFSI, and Reactor HP Branch Division of Nuclear Materials Safety Region I
Approved by:	Heather J. Gepford, PhD, CHP, Chief Materials Licensing and Decommissioning Branch Division of Nuclear Materials Safety Region IV

Enclosure

EXECUTIVE SUMMARY

Department of the Air Force
Robins Air Force Base - Georgia
NRC Inspection Report 030-28641/2019-003

This U.S. Nuclear Regulatory Commission (NRC) inspection was a special, announced inspection of decommissioning activities being performed at Building 181, Robins AFB, Georgia. The purpose of the inspection was to verify compliance with the NRC-approved Decommissioning Plan (DP) and the Addendum to the Decommissioning Plan for Robins Air Force Base Building 181, Phase 2, Final Status Survey Plan, Robins Air Force Base, Georgia (Addendum) dated June 2018. The inspection included a confirmatory survey to independently verify the results of the licensee's final status survey.

Decommissioning Performance and Status Review

- The licensee conducted remediation activities at Building 181 in accordance with the approved DP, Addendum, and associated procedures. The activities were conducted in a manner that ensured protection of health and safety of the personnel performing the work activities, the environment, and the public.

- The NRC performed selected confirmatory measurements and collected smear samples to determine if contamination was present in Building 181. Based on the survey measurements and analytical results of the smears, the NRC determined that the confirmatory survey results were comparable to those obtained by the licensee and were below the NRC-approved release criteria.

Report Details

Site Status

Building 181 at Robins Air Force Base (AFB), Georgia, originally consisted of 12 cells and ancillary rooms on three floors. Building 181 was originally used for testing aircraft engines. Subsequently, the building was repurposed, and Cells 5 and 6 were converted and used to remove depleted uranium (DU) oxidation products from DU counterweights that were used in various aircraft.

The radioactive material within Building 181 was possessed by the U.S. Air Force (USAF) under its NRC Master Materials License (MML) No. 42-23539-01AF, Docket No. 030-28641, MML Permit No. GA-00462-03, Docket No. 040-00462, issued to 574 CMMXS/CL at Robins AFB for corrosion control of C-5 ailerons, counterbalances and shims, and storage of associated waste pending disposal.

Following a scoping survey in August 2015, and a baseline radiation survey at Building 181 in November-December 2015, both conducted by ARS Aleut Remediation, LLC (ARS), decommissioning of Building 181 was classified as a Group 4 Decommissioning project as defined by NUREG 1757, Volume 1, Revision 2, "Consolidated Decommissioning Guidance: Decommissioning Process for Materials Licensees."

The Air Force Final Decommissioning Plan (Agencywide Documents Access and Management System [ADAMS] Accession No. ML17167A421) dated June 2017, was approved by the NRC on September 25, 2017. The radioisotope of concern was DU and the Derived Concentration Guideline Levels (DCGLs) for the interior surfaces of Building 181 and for the soil beneath Cells 5 and 6 were derived using RESRAD-BUILD and RESRAD (onsite), respectively. This document established the DCGL for building surfaces as 2,570 disintegrations per minute per 100 centimeters square (dpm/100 cm^2). The site-specific DCGL for soil around or under Building 181 was established as 4.60 picocuries per gram (pCi/gm).

Geosyntec Consultants, the Air Force contractor and its subcontractor ARS performed remediation, and final status surveys (FSS) from late November 2017 until late January 2018. The NRC performed an inspection and selected confirmatory readings starting in January 2018. The results of this NRC inspection and confirmatory survey are documented NRC Inspection Report Number 030-28641/2017-007, dated May 3, 2019 (ADAMS Accession No. ML19095B598).

The licensee's original intent was to remediate the interior of Building 181 and perform an FSS. After NRC approval of the FSS report, a third-party contractor would partially demolish Building 181. ARS was then planning to survey the soil underneath the building to ensure that subsurface soils were not radiologically impacted. However, during the conduct of the original remediation and FSS, it was discovered that a portion of a utility chase under Room 6A1 was constructed as a subsurface vault. The vault was approximately 4 feet high and 20 feet wide with an accompanying pipe chase extending the length of Room 6A1. A sump was discovered at the wet end of the vault. Additionally, the original work disclosed contamination on the concrete apron and pavement on the west side off Cell 6.

ARS developed an addendum to the Decommissioning Plan (Addendum) to describe how the characterization and FSS would be performed for the subsurface vault, pipe chase, sump,

concrete apron, and the soil beneath the apron. The Addendum was approved by the NRC on June 3, 2019 (ADAMS Accession No. ML19134A359). This Addendum dated March 21, 2017 and revised June 13, 2017 (ADAMS Accession Nos. ML17094A481 and ML17167A421) was implemented in July and August 2019. Contaminated soil and gravel were remediated and an FSS performed. During this period of work, a second vault and pipe chase was found on the north side of the support wall that runs the length of Cell 6. A sump was discovered at the west end of the vault. The FSS of this area was completed in October 2019 and it confirmed that the north wall and pipe chase were not radiologically impacted.

Additional material and equipment radiological surveys, periodic workplace monitoring, and the sub-slab gamma walkover surveys and sampling of Cells 5 and 6, as outlined the DP, will be performed during building demolition. These activities had not been scheduled as of the date of this inspection.

1 Closeout Inspection and Survey (83890)

1.1 Inspection Scope

To verify that the site has acceptable radiological levels for unrestricted use in accordance with 10 CFR 20.1402 and that ARS and the USAF performed decommissioning activities in accordance with the approved DP.

1.2 Observations and Findings

a. Implementation of Decommissioning Plan and Final Surveys

The licensee conducted remediation activities at Building 181 in accordance with the approved Addendum and associated procedures. The activities were conducted in a manner that ensured protection of health and safety of the personnel performing the work activities, the environment, and the public. The remediation activities were managed by Geosyntec Consultants and executed by ARS in accordance with the DP.

The licensee also continued to implement the health and safety controls that were delineated in the original approved DP to ensure protection of workers, the environment, and the public. These controls included air sampling program, contamination control, and instrumentation calibration program. The inspector reviewed work plans and implementing procedures and observed remediation and surveying activities. The inspector determined that the guidance documents were thorough and addressed the controls described in the DP, such as monitoring airborne radioactivity, establishing radiologically controlled areas, and establishing buffer zones between the radiological areas and non-contaminated areas.

The licensee documented all field activities performed during remediation in the daily reports. Based on the documents reviewed and work activity observed, the licensee demonstrated that radiological controls were established and implemented in accordance with the DP and work plan during the remediation activities.

b. Disposition and Transportation of Material

Geosyntec/ARS is responsible for coordinating the packaging, transport, treatment, and disposal of the low-level radioactive waste and mixed low-level radioactive waste at the site. At the end of the inspection period, the waste was secured at Robins AFB in the vicinity of Building 181.

c. Confirmatory Surveys

On July 22-23, 2019, the NRC performed confirmatory surveys at Robins AFB. The confirmatory surveys consisted of selected surface scans, 10 fixed-point measurements, and 10 removable contamination smears. The confirmatory surveys were performed to assess and determine the adequacy of the licensee's FSS design, implementation, and results for demonstrating compliance with the release criteria for the site. The radionuclide of concern was DU.

The NRC confirmatory smear samples were collected using a chain of custody process and sent to Oak Ridge Institute for Science and Education (ORISE), an independent laboratory, for analyses. The ORISE results, delineated in its October 22, 2019, report contained both alpha and beta activities in units of disintegrations per minute (dpm) and associated minimum detectable activities. No measurable activity was found on any of the smears.

The fixed-point measurements shown below were obtained by the NRC inspector using a Ludlum Model 3001 Multi-Detector Digital Survey Meter with a Ludlum 43-92 Alpha Scintillation Probe and 44-9 alpha-beta-gamma detector Pancake probe, Serial Numbers 25017526, PR378513, and PR376773, respectively, last calibrated October 31, 2018.

The results observed by the inspector were usually below background and well below the NRC- approved DCGL. The background counts were found to be 0 dpm alpha and 440 dpm beta. All readings were below background. The table below lists the readings for alpha and beta measurements taken for comparison.

NRC Sample Location	Corresponding Contractor Location	alpha	beta
1	Pipe Chase #3 NW42	9	<bkgd
2	Pipe Chase #11 53	2	<bkgd
3	Pipe Chase #6 Floor 1313	5	<bkgd
4	Bldg. 4 BKGD	0	26
5	Sump WWD2 #5	0	<bkgd
6	SUMP E Wall #2	0	220
7	SUMP S Wall B1	8	190
8	Vault #4 Floor	9	327
9	Vault S Wall H2	11	<bkgd

In summary, all sample results were less than the NRC-approved DCGL, suggesting that the licensee's decommissioning activities were effective in removal of surface contamination in excess of the NRC-approved DCGL.

1.3 Conclusions

The licensee conducted remediation activities at the Robins AFB site in accordance with the DP, Addendum, and associated work plans. The activities were conducted in a manner that ensured protection of health and safety of the personnel performing the work activities, the environment, and public. Waste was being stored at the site in a secure area.

The NRC performed confirmatory surveys at the Robins AFB site. Based on the results of the confirmatory survey, it was determined that the portions of Building 181 described in the Phase 2 FSS Report for Building 181 met the criteria for unrestricted use in accordance with 10 CFR 20.1402, and therefore were acceptable for release.

2 Exit Meeting Summary

The inspector presented the inspection results to the licensee's representatives at the conclusion of the onsite inspection on July 23, 2019. The final inspection results were presented to the Secretariat of the USAF Radioisotope Committee by telephone on March 10, 2020. During the inspection, the licensee did not identify any information reviewed by the inspectors as proprietary.

SUPPLEMENTAL INSPECTION INFORMATION

Partial List of Persons Contacted

Licensee

MAJ Lwin, Robins AFB Radiation Safety Officer

ARS

H. Adams, Radiological Control Technician
K. Ausbrocs, Radiation Safety Officer,
D. Blain, Project Superintendent
L. Bradford, Labor
W. Hodges, Radiation Project Manager
G. Lord, Project Manager
C. McKenzie, Project Health and Safety Manager
A. Melloy, Sr Radiological Control Technician
C. Weir, Assistant Superintendent

Geosyntec Consultants

Justin Knight, P.E., Senior Engineer

Inspection Procedures Used

83890	Closeout Inspection and Survey

Items Opened, Closed, and Discussed

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
Addendum	Addendum to DP for Robins AFB Building 181, Phase 2 FSS
AFB	Air Force Base
ARS	ARS Aleut Remediation, LLC
Bkgd	background
CFR	*Code of Federal Regulations*
cm^2	centimeters squared
dpm	disintegrations per minute
DCGL	derived concentration guideline limits
DP	Decommissioning Plan
DU	depleted uranium
FSS	final status survey
MML	Master Materials License
NRC	U.S. Nuclear Regulatory Commission
ORISE	Oak Ridge Institute for Science and Education
RCT	Radiation Control Technician
USAF	U.S. Air Force

ROBINS AIR FORCE BASE - NRC INSPECTION REPORT 030-28641/2019-003 DATED - MAY 6, 2020

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M. Poston, AFMMLPM/MLDB

ADAMS ACCESSION NUMBER: ML20127J012

X SUNSI Review By: MRP	ADAMS: **X** Yes ☐ No	☐ Sensitive **X** Non-Sensitive	☐ Non-Publicly Available **X** Publicly Available	Keyword NRC-002

OFFICE	RI:DNMS	RIV:DNMS/MLDB	C:MLDB
NAME	OMasynkBailey	MRPoston	HJGepford
SIGNATURE	*/RA/*	*/RA/*	*/RA/*
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