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NUCLEAR REGULATORY COMMISSION
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September 19, 2017

MEMORANDUM TO: Docket File 030-28641

THRU: Vivian H. Campbell, Chief */RA/*
Materials Licensing & Inspection Branch
Division of Nuclear Materials Safety

FROM: Robert Evans, PhD, Senior Health Physicist */RA/*
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SUBJECT: ENVIRONMENTAL ASSESSMENT FOR PROPOSED
DECOMMISSIONING OF BUILDING 181 AT
ROBINS AIR FORCE BASE, GEORGIA

The Department of the Air Force (the licensee) submitted a proposed Decommissioning Plan (DP) to the U.S. Nuclear Regulatory Commission (NRC) by Memorandum dated March 21, 2017, as amended on June 13, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML17094A481 and ML17167A420). The licensee planned to use the instructions provided in the DP to remediate residual depleted uranium (DU) contamination from Building 181 at Robins Air Force Base, Georgia.

The NRC staff developed the enclosed Environmental Assessment (EA) using the guidance provided in NUREG-1748, Environmental Review Guidance for Licensing Actions Associated with NMSS Programs. Based on the analysis contained in this EA, the staff concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the staff has determined that preparation of an environmental impact statement is not warranted. This conclusion will be published in the *Federal Register* as required by 10 CFR 51.35.

Docket: 030-28641
License: 42-23539-01AF

Enclosure:
Environmental Assessment

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ROBINS AFB ENVIRONMENTAL ASSESSMENT DATED SEPTEMBER 19, 2017

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ENVIRONMENTAL ASSESSMENT
FOR DECOMMISSIONING OF BUILDING 181
AT ROBINS AIR FORCE BASE, GEORGIA
MATERIALS LICENSE 42-23539-01AF, DOCKET 030-28641

Introduction:

A. Summary

The Department of the Air Force (the licensee) submitted a proposed decommissioning plan (DP) to the U.S. Nuclear Regulatory Commission (NRC) for review and approval (Agencywide Documents Access and Management System [ADAMS] Accession Nos. ML17094A481 and ML17167A420). The licensee planned to use the instructions provided in the DP to remediate residual depleted uranium (DU) from Building 181 at Robins Air Force Base (AFB), Georgia. Following completion of decommissioning, the licensee planned to demolish a significant portion of the building. If the DP is approved, the NRC staff would amend Master Materials License 42-23539-01AF to allow the licensee to implement the instructions provided in the DP. As stipulated in Part 51 of Title 10 of the *Code of Federal Regulations* (10 CFR Part 51), the NRC performed an environmental assessment of the proposed decommissioning activity.

The NRC staff developed this Environmental Assessment (EA) to support the review of the proposed DP in accordance with the requirements of 10 CFR Part 51. According to Section 1.2 of NUREG-1748, Environmental Review Guidance for Licensing Actions Associated with NMSS Programs (Accession No. ML032450279), an EA is a concise, publicly-available document that provides sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement or a Finding of No Significant Impact (FONSI). Based on the NRC staff's evaluation, the conclusion of this EA is a FONSI on human health and the environment for the proposed licensing action. Accordingly, the NRC staff will not prepare an Environmental Impact Statement for this license amendment.

B. Facility Description

Building 181 is a three-story building that consists of 12 cells, interconnected rooms, and a center section. The building footprint is about 70,000 square feet (6,500 square meters). Building 181 was originally used to test aircraft engines. Cells 5 and 6 were previously used for removal of oxidation products from aircraft counterweights containing DU. The oxidation was removed by scraping and scrubbing the counterweights. The counterweights were then cleaned before being encased in an aluminum screen. The licensee could not easily ascertain when activities involving radioactive material were conducted or when the work permanently ceased.

The decommissioning process will include removal of radioactive material in excess of the NRC-approved derived concentration guideline levels. After completion of decommissioning, the licensee and its contractor will conduct a final status survey using the guidance provided in NUREG-1575, Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), Revision 1, August 2000 (Accession No. ML003761445). The proposed decommissioning process is described in Section 4.0 of the DP, and the proposed final status survey is described in Section 5.0 of the DP.

After completion of decommissioning and the final status survey, the licensee plans to demolish Cells 1-8 and interconnected rooms. The footprint of the building scheduled to be demolished is approximately 64,000 square feet (5,950 square meters). The building rubble will be disposed

in an authorized landfill. The licensee plans to continue to use Cells 9-12 for non-radiological work. Since the property is located on an active Air Force base, the licensee is expected to retain control of the land and remaining building structure for the foreseeable future.

The licensee provided some information about the local geological and hydrogeological conditions. The building is located at an outcrop of the Providence aquifer. The Providence aquifer consists of upper Cretaceous age fine to coarse grained sand with interlayered silt and clay. Based on sample results collected from vicinity wells in April 2014, the unsaturated zone is approximately 25-feet (7.6 meter) thick in the area of the building. Soil borings from nearby wells indicate that the unsaturated zone consists of sand, silty sand, and clayey sand. Based on the depth of the unsaturated zone (25 feet/7.6 meters) and the thickness of the floor (5-6 feet/1.5-1.8 meters), the licensee concluded that it was unlikely that DU contamination within Building 181 has migrated into the groundwater.

C. NRC Guidance for Preparation of EAs

The NRC staff conducted this environmental assessment using the guidance provided in NUREG-1748, Section 3, "Preparing an Environmental Assessment." The NRC staff conducted this assessment, in part, because the proposed action (approval of DP) did not qualify for a categorical exemption. In addition, the proposed action was not covered in an existing environmental analysis previously conducted by the licensee.

Section 3.2 of NUREG-1748 discusses the differences between simple and complex licensing actions and associated EA documents. The NRC staff concluded that the decommissioning and demolition of Building 181 did not meet the criteria for a complex licensing action, because the proposed work activity did not involve major disturbances to the environment. Since the NRC staff considered this decommissioning project to be a simple licensing action, the NRC staff elected to prepare a simple EA using the guidance provided in Section 3.3 of NUREG-1748.

Proposed Action:

The NRC's proposed action is to amend License 42-23539-01AF to approve the proposed DP, as revised. The licensee would then be authorized to conduct decommissioning work as specified in the NRC-approved DP. Concurrently with the approval of the proposed decommissioning work instructions, the NRC plans to approve the licensee's proposed site-specific radiological release criteria and final status survey plan.

If approved, the licensee's contractor will remediate residual radioactive contamination and lead-based paint from the interior of the building using instructions provided in the DP. After completion of decommissioning, the contractor will conduct a final status survey of the building surfaces in accordance with the instructions provided in the DP. The residual radioactive and hazardous waste material will be disposed at an authorized disposal site based on sample results of the removed material. During building demolition, the contractor will radiologically survey the soil underneath portions of the building to ensure that the soil is not contaminated with radioactive material. If contaminated, the soil will be removed for disposal.

After completion of building demolition, the contractor will conduct a final status survey of the land underneath the area where Cells 5 and 6 were previously located, to ensure that the soil does not contain contamination greater than the NRC-approved release criteria. The NRC staff plans to conduct routine inspections during decommissioning and the final status surveys.

The NRC will also review and approve the licensee's final status survey results after completion of the decommissioning process. The NRC may elect to conduct an independent radiological confirmatory survey to confirm the licensee's final status survey results.

Need for Proposed Action:

The purpose of the proposed action is to reduce the residual radioactivity within Building 181 to levels that allow the release of the property for unrestricted use. If the licensee conducts site remediation in accordance with instructions provided in the DP, the licensee will be in compliance with the radiological criteria for license termination as specified in regulation 10 CFR Part 20, Subpart E. Approval of the DP would allow the NRC to fulfill its responsibilities under the Atomic Energy Act to ensure protection of public health and safety and the environment.

Environmental Impacts of the Proposed Action:

The NRC staff considered the possible environmental impacts of the proposed action. The staff considered the impacts on the following environmental resources: (1) land use; (2) transportation; (3) geology and soils; (4) water resources; (5) ecology; (6) meteorology, climatology, and air quality; (7) noise; (8) historical and cultural resources; (9) visual/scenic resources; (10) socioeconomic; (11) public and occupational health; and (12) waste management.

Building 181 is located within the boundary of Robins AFB. Other structures and paved roads are located around the property. An airfield and tarmac are located nearby. The property will remain under the control of the Air Force during and after decommissioning. Upon completion of decommissioning and NRC approval of the final status survey results, the licensee is expected to release the land and remainder of the building for unrestricted use. The land use is not expected to change significantly as a result of this decommissioning project.

The transportation resource will be impacted slightly during demolition of the building. Additional vehicles will be needed to demolish the building and to remove the demolished debris. This increase in transportation resources will only exist as long as building demolition is in progress. After completion of demolition, the transportation resource should return to normal. A few additional trucks will be needed for shipment of the radiologically contaminated material to a disposal site. The number of additional trucks is expected to be small, based on the low volume of material required to be disposed.

The local geology and soils are not expected to be impacted by building demolition. The local soils were already impacted by the construction of the building and surrounding infrastructure. Although unlikely, if the licensee discovers contaminated soil underneath the building, the soil with contamination above the NRC-approved cleanup criteria will have to be excavated and packaged for shipment. Clean backfill may be needed to fill any soil removed during decommissioning. The area of the demolition project is small when compared to the overall size of the military base.

The water resources are not expected to be impacted by building demolition. Based on the depth of the unsaturated zone (25 feet/7.6 meter) and the thickness of the floor (5-6 feet/1.5-1.8 meters), the licensee concluded that it was unlikely that DU contamination within Building 181 has migrated into the groundwater. As noted in the DP, the contractor will try to prevent potentially contaminated water from exiting the building. The contractor will plug

building drains during decommissioning work. If the buildup of water occurs in the building, the contractor will install containments at exit points, such as doorways, to prevent releases of potentially contaminated water from leaving the building.

The demolition of the building is not expected to have an impact on local ecology. No critical or endangered species or habitats are expected to be impacted, since the building is surrounded by other buildings and pavement.

The demolition of the building may have short-term impacts on air quality. These potential impacts include possible release of airborne radioactive particulates during decommissioning, airborne dust during demolition, and vehicle exhaust. To protect against releases of potentially radioactive airborne effluents, the licensee's contractor plans to collect outdoor air samples during decommissioning work. If the airborne particulate action level is exceeded, the building doors will be shut to minimize airborne effluents. With regards to the potential for airborne dust during building demolition, the demolition contractor is expected to take typical industrial precautions to minimize airborne dust including use of water suppression or discontinuing work during windy conditions. Finally, the work will result in a short term increase of vehicle exhaust during building demolition work. The percent increase in vehicle exhaust is expected to be small compared to the relative size of the Air Force base.

Noise will increase during building demolition work. The increase in noise is expected to be limited to daytime hours and will last only for the duration of the work.

No historical, cultural, visual, or scenic resources are expected to be impacted. Any cultural or historical resource would have been impacted during the construction of the building. The demolition of the building is not expected to impact any resources beyond the area already impacted by current development. The decommissioning and demolition of the building will not impact scenic or visual resources. The building is not considered historically significant, otherwise, the Air Force would not be demolishing it.

The decommissioning and demolition of the building will not impact any social groups, and the economic impacts of the work activities are expected to be minimal. The Air Force has not stated what it plans to do with the area once the building has been partially demolished, but the land use will most likely be similar to what's already in place. The Air Force does not plan to relinquish control of the area after building demolition, and the footprint of the building will continue to remain within the boundary of Robins AFB.

The decommissioning contractor will provide measures to control public and occupational health during work. For example, the decommissioning contractor will monitor workers for exposure to airborne radioactivity. The demolition contractor is expected to implement typical industrial safety controls such as issuance of safety equipment to workers, control of work area boundaries, and suppression of dust. As part of its review, the NRC considered the impacts of residual radioactivity that may remain within building rubble or subsurface soil. The licensee proposed cleanup criteria that is protective of human health and safety. The licensee's contractor is expected to remove the residual radioactive contamination to levels that are at or below the cleanup criteria, an action that is protective of public health and safety. Details about the NRC's analysis of the cleanup criteria are provided in a separate Safety Evaluation Report (Accession No. ML17193A222).

Finally, the decommissioning contractor established procedures for disposal of waste material. The DP indicates that the contractor plans to sample the waste material, to identify the levels

of radiological and hazardous materials present. As noted earlier, the contractor will also remove lead-based paint as part of the work project. The concentrations of radioactive and hazardous wastes in the material will dictate how the material will be packaged and transported, and the concentrations will be used to identify the disposal sites that can accept this material for disposal. The demolition contractor is expected to sample the rubble to ensure that the material meets the standards for the chosen waste landfill. Liquid wastes are not expected to be created.

In summary, the proposed decommissioning and building demolition are not expected to have significant, long-term impacts on environmental resources.

Environmental Impacts of the Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the “no-action” alternative). The no-action alternative assumes that the status quo is maintained. With respect to the Building 181 project, the no-action alternative means that the licensee would not be allowed to conduct decommissioning work, and the contaminated building surfaces will continue to remain onsite at Robins AFB.

The no-action alternative is not acceptable because it violates the NRC’s Timeliness Rule regulations specified in 10 CFR Part 30.36. The Timeliness Rule requires licensees to decommission their facilities in a timely manner when licensed activities have permanently ceased. In addition, the radioactive contamination at Building 181 currently exceeds the radiological criteria for license termination as specified in Subpart E to 10 CFR Part 20. Approval of the no-action alternative will prevent the licensee from conducting decommissioning work as necessary to release the site for unrestricted use under Subpart E requirements. Accordingly, the NRC staff eliminated the no-action alternative from consideration.

Agencies and Persons Consulted:

The NRC staff consulted with the Georgia Department of Natural Resources, Radioactive Materials Program, regarding the environmental assessment of the proposed action (Accession No. ML17193A244). By email dated August 14, 2017 (Accession No. ML17227A184), the State of Georgia suggested that once demolition is complete and soil contamination surveys are accomplished, if these surveys reveal any soil contamination, a groundwater survey should be conducted. In the past, the State has seen instances of groundwater contamination, for example, around a contaminated vault that had to be remediated. While there is no evidence of soil contamination beneath Building 181, the State believes that sampling of the groundwater is prudent if the soil is contaminated. The NRC staff informed the licensee of the State’s comments, and the NRC plans to review the results of the licensee’s soil survey.

The NRC staff determined that the proposed action will not affect endangered species or critical habitats, because the project is located within an area that was fully developed. Therefore, no further consultations were deemed necessary under Section 7 of the Endangered Species Act. Likewise, the NRC staff determined that the proposed action is not the type of activity that has the potential to impact historic properties, in part, because the building has not been designated as a historic property by the Air Force. Therefore, no further consultation was determined to be necessary under Section 106 of the National Historic Preservation Act.

Conclusion:

The NRC staff have concluded that the proposed decommissioning project at Robins AFB, Georgia, will have minimal impacts on the environment. The NRC staff considered the impacts on land use, transportation, geology and soils, water resources, ecology, air quality, noise, historical and cultural resources, visual and scenic resources, socioeconomic resources, public and occupational health, and waste management. The staff also determined that the affected environment and the environmental impacts associated with the decommissioning of Building 181 are bounded by the impacts evaluated by NUREG-1496, "Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities" (Accession No. ML042310492).

The staff finds that the proposed decommissioning complies with 10 CFR Part 20.1402, which provides the radiological criteria for unrestricted use. Further, the licensee will perform the remediation work under an NRC license, using an NRC-approved decommissioning plan, which will help ensure that the licensee and its contractor will establish and implement programs to protect workers, the public, and the environment. Further, the NRC plans to conduct inspections during work activities. Past NRC experiences with decommissioning activities at similar sites suggest that public and worker exposures to radioactivity will be far below the limits specified in 10 CFR Part 20.

The NRC staff have prepared this EA in support of the proposed action to amend NRC Materials License 42-23539-01AF to approve the licensee's proposed DP for Building 181 at Robins Air Force Base. On the basis of this EA, NRC has concluded that there are no significant environmental impacts and the license amendment does not warrant the preparation of an Environmental Impact Statement. Accordingly, it has been determined that a Finding of No Significant Impact (FONSI) is appropriate.

References:

The following references are available for inspection at NRC's Public Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html> (with accession number in parentheses):

State of Georgia, "State of Georgia's Review and Comments on Proposed EA and SER for Robins AFB, Georgia," August 14, 2017 (ML17227A184)

U.S. Department of the Air Force, "Review of the Decommissioning Plan (DP) of the Building 181 at Robins AFB GA," March 21, 2017 (ML17094A481)

U.S. Department of the Air Force, "Decommissioning Plan for Robins Air Force Base, Building 181," June 13, 2017 (ML17167A420)

U.S. Nuclear Regulatory Commission, NUREG-1496, Volume 1, "Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities," July 1997 (ML042310492)

U.S. Nuclear Regulatory Commission, NUREG-1748, Environmental Review Guidance for Licensing Actions Associated with NMSS Programs, July 2003 (ML032450279)

U.S. Nuclear Regulatory Commission, NUREG-1575, Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), Revision 1, August 2000 (ML003761445)

U.S. Nuclear Regulatory Commission, "Request for Comments on Draft Environmental Assessment and Safety Environmental Report for Proposed Decommissioning Project at Robins Air Force Base, Georgia," July 24, 2017 (ML17193A244)

U.S. Nuclear Regulatory Commission, "Safety Evaluation Report for Proposed Decommissioning of Building 181 at Robins Air Force Base, Georgia," September 19, 2017 (ML17193A222)