



This document is scheduled to be published in the Federal Register on 03/04/2016 and available online at <http://federalregister.gov/a/2016-04863>, and on [FDsys.gov](http://FDsys.gov)

[7590-01-P]

**NUCLEAR REGULATORY COMMISSION**

**[Docket No. 030-28641; NRC-2015-0054]**

**Department of the Air Force; Hill Air Force Base, Utah**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Environmental assessment and finding of no significant impact; issuance.

**SUMMARY:** The Nuclear Regulatory Commission (NRC) is considering an amendment to Master Materials License 42-23539-01AF, Docket No. 030-28641, issued to the Department of the Air Force (the licensee). This amendment will allow the licensee to decommission a former magnesium-thorium alloy disposal trench at Hill Air Force Base, Utah, in accordance with instructions provided in an NRC-approved decommissioning plan. The NRC conducted an environmental impact assessment in support of this licensing action. Based on the results of this assessment, the NRC concluded that a Finding of No Significant Impact (FONSI) is appropriate.

**DATES:** The license amendment will be issued on **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** Please refer to Docket ID **NRC-2015-0054** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2015-0054**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov). For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). The ADAMS accession number for each document referenced in this document (if that document is available in ADAMS) is provided the first time that a document is referenced.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

**FOR FURTHER INFORMATION CONTACT:** Jack E. Whitten, Region IV, U.S. Nuclear Regulatory Commission, 1600 E. Lamar Blvd., Arlington, TX 76011; telephone: 817-200-1197, e-mail: [Jack.Whitten@nrc.gov](mailto:Jack.Whitten@nrc.gov).

**SUPPLEMENTARY INFORMATION:**

**I. Introduction**

The NRC is considering the issuance of an amendment to Materials License 42-23539-01AF, issued to the Department of the Air Force (licensee), to approve a proposed

Decommissioning Plan (DP) for remediation of a magnesium-thorium alloy burial pit located at Hill Air Force Base, Utah. As required by part 51 of title 10 of the *Code of Federal Regulations* (10 CFR), the NRC performed an environmental assessment of the proposed activity. Based on the results of the environmental assessment that follows, the NRC has determined not to prepare an environmental impact statement for the license amendment, and is issuing a Finding of No Significant Impact (FONSI).

A detailed Environmental Assessment (EA) for this project was prepared by the NRC and can be found in ADAMS under Accession No. ML16013A246. A summary of the environmental assessment is provided below. In addition, the NRC staff analyzed the radiological and industrial safety impacts to workers and the public. The resulting Safety Evaluation Report can be found in ADAMS under Accession No. ML16013A248.

### *Background Information*

The U.S. Atomic Energy Commission (AEC) issued Source Material License C-3650 (Docket No. 040-00204) to the Marquardt Aircraft Company of Van Nuys, California, in January 1957 for possession of magnesium-thorium alloy. In June 1961, Marquardt requested AEC approval to burn machine chips and small pieces of magnesium-thorium scrap material in trenches at the Little Mountain Test Annex (LMTA) at Hill Air Force Base, Utah. Docket file records (ADAMS Accession No. ML16021A132) indicate that 500 pounds (226.8 kilograms) of scrap alloy was buried in June 1959, 1,500 pounds (680.4 kilograms) of alloy was buried in February 1960, and 3,600 pounds (1,633 kilograms) of alloy was incinerated within the burial pit in August 1961. No other records of disposals were provided in the AEC's docket file.

In September 1961, License C-3650 expired, and License STB-434 was issued to the licensee. The AEC subsequently terminated License STB-434 in April 1971. During the time frame that the two licenses were active, regulation 10 CFR 20.304 allowed licensees to dispose

of certain radioactive wastes by burial. The AEC allowed License STB-434 to be terminated in 1971 without consideration of the magnesium-thorium alloy that had been incinerated and buried at LMTA. Effective January 28, 1981, approximately 10 years after termination of the license, NRC regulations in 10 CFR part 20 were amended (45 FR 71761) to delete Section 20.304.

In November 1993, an NRC inspector visited the LMTA to independently ascertain whether the magnesium-thorium alloy burial trench was still present at the facility (ADAMS Accession No. ML16021A132). The inspector identified two apparent disposal pits, based on changes in topography and changes in background radiation exposure rates. In response, the licensee and its contractors conducted five separate investigations from 1993-2013 to determine the extent of surface and subsurface radiological contamination at the site. The investigations confirmed that the surface and subsurface soils were contaminated with thorium-232. The licensee estimated that the volume of soil to be remediated was approximately 2,420 cubic yards (1,850 cubic meters), including swelling and over-excavation factors.

The licensee submitted a draft decommissioning Plan (DP) to the NRC by Memorandum dated May 12, 2014 (ADAMS Accession No. ML14197A685). This submittal included a final status survey plan and derived concentration guideline level evaluation for Site WR-111, the licensee's designation for the burial trench. In response to preliminary comments from NRC staff, the licensee provided supplemental information by Memorandum dated September 12, 2014. [The September 12, 2014, submittal contained non-publicly available information. The submittal was redacted by the Air Force and re-released as publicly available on December 18, 2014, ADAMS Accession No. ML15030A218]. This supplemental information included a licensee request for a waiver from the environmental impact assessment process.

In support of this request for a waiver, the licensee submitted an environmental assessment (EA) and FONSI (ADAMS Accession No. ML15030A218) to the NRC dated March 2014 involving a proposed emergency power unit overhaul complex at the LMTA. This

particular EA included the area encompassing the magnesium-thorium decommissioning project at LMTA, but this EA did not specifically address the proposed decommissioning project at Site WR-111 itself. Citing regulation 32 CFR part 989, appendix B, the licensee requested a categorical exclusion from further analysis of those actions that are similar to other actions which have been determined to have an insignificant impact in a similar setting as established in an environmental impact statement or an environmental assessment resulting in a FONSI. In other words, the licensee requested a categorical exclusion from the environmental assessment process for Site WR-111 based on the completion of a similar EA and FONSI for the LMTA in March 2014.

The NRC staff acknowledges the licensee's request for a categorical exclusion; however, NUREG-1748, Environmental Review Guidance for Licensing Actions Associated with NMSS Programs (ADAMS Accession No. ML032450279), Section 1.6.1, states that another agency's EA can be adopted by the NRC, but the NRC is responsible for preparing its own EA in accordance with the requirements of 10 CFR 51.32-35. The NRC must prepare a site-specific EA and FONSI (as appropriate) to ensure that the site-specific aspects have been addressed.

### *Facility Description*

The LMTA is a 740-acre (300-hectare) facility managed by Hill Air Force Base. The property is located approximately 15 miles northwest of Hill Air Force Base in a remote section of Weber County, Utah. The disposal trench (Site WR-111) is located in the southeastern corner of LMTA. The area of the trench is estimated to be 170 feet (52 meters) by 170 feet (52 meters). There are no buildings or structures within or immediately adjacent to the WR-111 site.

The current land use is military and industrial, with extensive rangeland present around the property. Industrial properties are located approximately 1 mile (1.6 kilometers) to the

northeast of the WR-111 site. The nearest residence is situated about 2 miles (3.2 kilometers) east of the site. The land use is not expected to change in the near future, and the Federal Government plans to continue to control the LMTA property for research and development activities.

The groundwater at the WR-111 site is reported to occur between 34-57 feet (10.4-17.4 meters) below ground surface. Four monitoring wells were installed around the site in 2006, in part, to determine if the contents of the disposal trench have infiltrated into the groundwater. The licensee's contractor sampled the wells in November 2006. Based on these sample results, the licensee's contractor concluded that the buried thorium waste was not leaching into the local groundwater.

## **II. Environmental Assessment**

### *Description of the Proposed Action*

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

The decommissioning work includes excavating the trench with heavy equipment, packaging and transporting the excavated material to an offsite location for permanent disposal, conducting radiological surveys to confirm that the site has been completely remediated, and backfilling the trench with clean material. After completion of decommissioning, the NRC is expected to review the licensee's proposed final status survey results and conduct an independent radiological survey to confirm the licensee's final status survey results.

### *Need for the Proposed Action*

The purpose of the proposed action is to reduce the residual radioactivity at Site WR-111 to levels that allow 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 the public health and safety and environment.

### *Environmental Impacts of the Proposed Action*

In its EA and FONSI dated March 14, 2014, the Air Force summarized the potential impacts of the proposed construction of four buildings and demolition of two buildings at the LMTA to support the overhaul of emergency power units used in fighter aircraft. The Air Force identified and analyzed four environmental effects—air quality, solid and hazardous wastes, biological resources, and water quality. The NRC staff reviewed the licensee's environmental impact assessment with an emphasis on the potential impacts that may occur while conducting decommissioning work at Site WR-111.

The first environmental impact is air quality. This impact was analyzed by the Air Force because the location of the project (Weber County, Utah) is not in complete attainment status with Federal clean air standards. For this reason, the Air Force attempts to control emissions originating from Hill Air Force Base. The potential air quality impacts resulting from decommissioning Site WR-111 would include fugitive dust from ground disturbance and emissions from construction/transportation equipment.

At Site WR-111, the primary short-term health hazard to site workers is the potential for airborne radioactivity during excavation remediation. In response, the licensee's contractor committed to implement engineering controls to suppress dust and to conduct air sampling. If the air samplers indicate the presence of airborne radioactive dust, the work will be suspended until the cause of the radioactive dust is identified and corrected. The contractor also committed to cover soil piles as practical and use silt fencing as needed. Another potential impact on air quality involves emissions from equipment and vehicles that are used to excavate the trenches, ship the radioactive wastes for disposal, and transport workers to and from the jobsite. The NRC staff concluded that the overall air quality impact will be minimal due to the limited duration of the project.

The second environmental impact is solid and hazardous wastes. The licensee plans to manage and dispose of the radioactive wastes in accordance with instructions provided in the DP and associated work plan. Non-radioactive hazardous wastes are not expected to be encountered during decommissioning. In addition, liquid hazardous wastes are not expected to be created. The contractor will sample the radioactive wastes for non-radiological hazardous waste constituents to ensure that the wastes are acceptable for shipment to the chosen disposal site.

The third environmental impact involves biological resources. At the WR-111 site, the decommissioning work will result in temporary loss of habitat and displacement of animal species, specifically, mule deer and rodents. However, the footprint of the decommissioning project is small, 1 acre (0.4 hectares), and the contractor and licensee plan to restore the property after completion of work. Therefore, the short-term decommissioning of Site WR-111 would have a minimal impact on biological resources.

The fourth analyzed environmental impact involves water quality. There are no surface water sources in the vicinity of the proposed work area; therefore, the work should have no impact on surface waters. The work should not have an impact on groundwater because the

groundwater table is below the depth of the excavation. There may be a potential impact from storm water during work activities, but the contractor has developed procedures to respond to potential rainwater runoff during work activities.

The Air Force eliminated several issues from further study, such as cultural resources. Cultural resources include archaeological, architectural, and traditional cultural properties. In the Air Force's assessment, it explained that four previous cultural surveys were conducted in the area, and no cultural resources were identified. The NRC staff noted that the location of the disposal trench had already been disturbed; therefore, excavation of the radioactive material from the trench will not result in the disturbance of any new area not already disturbed.

Other issues eliminated from further study by the Air Force included impacts on geology and surface soils, occupational safety and health, noise, accident potential, airfield encroachment, and socio-economic resources. The NRC staff reviewed these potential impacts and concluded that none would be significantly affected by the decommissioning of Site WR-111. For example, occupational safety and health was eliminated from consideration because the contractor will use trained individuals and approved procedures to control the work.

#### *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 WR-111 site, the no-action alternative means that the licensee would not be allowed to conduct decommissioning work, and the disposal trench would continue to remain onsite at the LMMA.

The no-action alternative is not acceptable because it violates the NRC's Timeliness Rule regulations that are 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 Site WR-111 currently exceeds the radiological criteria for license termination as specified in subpart E to 10 CFR part 20. Approval of the no-action alternative would prevent the licensee from conducting decommissioning work as necessary to release the site for unrestricted use under subpart E requirements.

### *Agencies and Persons Consulted*

In accordance with its stated policy, the NRC consulted with the Utah Department of Environmental Quality, Division of Waste Management and Radiation Control, regarding the environmental assessment and safety evaluation impacts of the proposed action (ADAMS Accession No. ML15338A187). On January 6, 2016, the State agency informed the NRC that it had no comments on the proposed action (ADAMS Accession No. ML16008B076).

As part of its 2014 environmental assessment process for the overhaul complex, the Air Force consulted with local Tribes and the Utah Division of State History. The Air Force provided documentation of their responses as attachments to its EA. The Utah Division of State History and the Hopi Tribe concurred with the finding of no adverse impacts, and the Navajo Nation concluded that the proposed project would not have an impact on Navajo traditional cultural properties (ADAMS Accession Nos. ML15282A470 and ML15282A476). The NRC staff did not consult with these State and tribal entities, due to the results of the Air Force's consultations.

The NRC staff determined that the proposed action will not affect listed species or critical habitats based on the results of previous consultations provided by the Air Force to the NRC. Therefore, no further consultations are required 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 cause effects on historic properties, in part, because there are no structures located at or adjacent to Site WR-111. Therefore, no further consultation is required under Section 106 of the National Historic Preservation Act.

### **III. Finding of No Significant Impact**

The NRC staff concluded that the proposed decommissioning project at Site WR-111 at Hill Air Force Base, Utah, will have a minimal impact on the environment. The NRC staff considered air quality, solid and hazardous wastes, biological resources, water quality, cultural resources, and worker safety. In addition, the staff determined that the affected environment and the environmental impacts associated with the decommissioning of Site WR-111 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" (ADAMS Accession No. ML042310492).

Based on the analysis contained in this EA, the NRC staff concludes that the proposed action will not have a significant effect on the quality of the human environment and has

determined not to prepare an environmental impact statement for the proposed action. Accordingly, the NRC has determined that a Finding of No Significant Impact (FONSI) is appropriate.

Dated at Arlington, Texas, this 17th day of February 2016

For the Nuclear Regulatory Commission.

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[FR Doc. 2016-04863 Filed: 3/3/2016 8:45 am; Publication Date: 3/4/2016]