

NUCLEAR REGULATORY COMMISSION
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Environmental Assessment Related to Issuance of a License Amendment
of U.S. Nuclear Regulatory Commission Materials License No. 19-00915-03,
United States Department of Agriculture, Beltsville, Maryland

Introduction

The U.S. Nuclear Regulatory Commission (NRC) has prepared this environment assessment (EA) of the amendment of United States Department of Agriculture's (USDA) Materials License Number 19-00915-03, to authorize remediation activities at a small low level radioactive waste burial site located at Moore Air Base (MAB) in Mission, Texas. The Animal and Plant Health Inspection Service (APHIS) of USDA conducted research and development with radioactive material at MAB to support Plant Protection and Quarantine (PPQ) activities of USDA. Since the mid 1950's USDA has used radioactive material under licenses from the U.S. Atomic Energy Commission (AEC), and later from the NRC and continues to use radioactive material under NRC License Numbers 19-00915-03 and 19-00915-06, in the conduct of its research and development program at a variety of locations in the U.S., including MAB. Low level radioactive waste generated during activities at MAB was buried at four discrete locations at the MAB site in accordance with the provisions of AEC regulations (10 CFR 20.304). The licensee's records indicate that the last burial of radioactive waste at the site was in 1965. NRC regulations continued to authorize burial of radioactive waste until January 28, 1981, when 10 CFR 20.304 was rescinded. The licensee has maintained control of the burial site although no additional waste has been buried at the site since 1965.

The licensee has submitted a plan to remediate the four burial locations and has requested authorization from the NRC to implement the plan at the MAB site. The USDA decided to include the four radioactive waste burial sites in a voluntary, non-radiological site characterization and clean up program at MAB. The NRC staff has evaluated USDA's remediation plan and has developed this EA in accordance with the requirements of 10 CFR Part 51. Based on the staff evaluation, the conclusion of the EA is a Finding of No Significant Impact (FONSI) on human health and the environment for the proposed licensing action.

In 1944, the MAB was established in the Rio Grande Valley region of southern Texas in Hidalgo County, approximately 14 miles northwest of Mission, Texas. The MAB facility is a triangular shaped piece of land of approximately 947 acres and is bounded on the east by FM 681, and the south and west by farmland. The adjoining properties to the west and south have been used as ranch land, rangeland, and farmland since the construction of the MAB. The MAB facility has an independent waste water treatment plant and collection system, water treatment plant and distribution system, water storage facility and a burn pit/burial site, which is no longer in use. Storm water runoff is collected and conveyed by a storm sewer system adjacent to the runways and is discharged on the west side of FM 681.

USDA has conducted research activities at MAB since the early 1960's. Current USDA operations utilize the runway, apron system, and outbuildings that were originally built as part of

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MAB. License Nos. 19-00915-03 and 19-00915-06 were issued in the mid 1950's and have been amended periodically since that time. NRC-licensed activities at the MAB site prior to 1965 included laboratory procedures typically performed on bench tops and in hoods using hydrogen 3, carbon 14, phosphorus 32, and nickel 63, and sealed sources containing cobalt 60 in a pool type irradiator used to sterilize screw worm fly. APHIS continues to conduct similar research and development at the site but now uses self-shielded irradiators to sterilize screw worm flies.

Radioactive waste containing cobalt 60 consisting of rags, other debris, and including a swimming pool pump and filtering apparatus associated with clean up of a leaking source at the irradiator were buried in three pits, each assumed to be four to six feet deep, at Site 5 (Screw Worm Facility) of MAB. There is no record of the amount of radioactivity in these pits; however, cobalt 60 has a half life of 5.26 years and since 1965, has undergone approximately 8 half lives decay. Therefore, the cobalt 60 in the buried waste is less than 0.4% of its original radioactivity. The licensee's records also indicate that as much as 10 millicuries of phosphorus 32 were buried somewhere at Site 5. However, no detectable phosphorus 32 would remain because of the short half-life of phosphorus 32 (14.3 days). The fourth pit is located at Site 6 of MAB. The contents of this pit include two electron capture detectors containing an 83 millicurie hydrogen 3 source, a nickel 63 source of unknown radioactivity, and three millicuries of carbon 14 waste from liquid scintillation counting.

The Proposed Action

The proposed action is to amend License No. 19-00915-03 to authorize remediation activities at the MAB burial site located in Mission, Texas in accordance with the plan submitted by the licensee. Based on the licensee's historical knowledge of the site and the conditions of the facility, the licensee plans to excavate and dispose of as low level radioactive waste all material, along with all contaminated soil excavated from the burial locations. The licensee's work plan includes a complete radiological survey of the burial site after the four locations are excavated and all contaminated material is removed from the site. The excavated locations will not be backfilled with clean soil until the licensee has provided documentation to the NRC that demonstrates that the burial sites have been remediated and meet the criteria specified in Subpart E of 10 CFR Part 20 for release for unrestricted use.

Need for the Proposed Action

The purpose of the proposed action is to amend NRC License No. 19-00915-03 to allow for remediation of the MAB burial sites. The licensee needs this authorization in order to remove contamination from the waste burial sites and prepare the sites for eventual release for unrestricted use.

Environmental Impacts of the Proposed Action

The affected environment was described in the Introduction. The licensee has completed a historical review of activities at the site. The NRC staff has reviewed the work plan for the remediation activities by USDA. The burial sites are located within the boundaries of the area that remains under the licensee's control. The MAB facility has independent water treatment plant, and collection system. The licensee has procedures in place to prevent dust and associated radioactive contamination from becoming airborne during excavations. The amount of radioactive material in the burial sites is small and the areas to be disturbed are small. Therefore, the remediation activities at the site and the transportation of waste from the site are not expected to have significant impact on the environment and the workers.

Environmental Impacts of the Alternatives to the Proposed Action

Since the facility at the MAB site contains inactive burial locations, the only alternative to the proposed action of amending the license to authorize initiation of remediation activities is denial of the proposed action (i.e. no action). Denial of the application would result in no change in current environmental impacts and would require continued access control and monitoring by USDA. The environmental impacts of the proposed action and the alternative action are similar.

Agencies and Persons Consulted

The NRC staff has determined that the proposed action will not affect a critical habitat. Therefore, no further consultation is required under Section 7 of the Endangered Species Act. Likewise, the NRC staff have determined that the proposed action is not the type of activity that has the potential to cause effects on historic properties. Therefore, no consultation is required under Section 106 of the National Historic Preservation Act.

NRC provided a draft of its Environmental Assessment to the State of Texas for review. On November 7, 2005, the Texas Department of State Health Service responded by electronic mail and agreed with the conclusions of the EA.

Conclusions

The NRC staff have prepared this EA in support of the proposed action to amend License No. 19-00915-03. On the basis of the 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 is appropriate.

List of Preparers

Sattar Lodhi, Senior Health Physicist, Division of Nuclear Materials Safety, Region I

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List of References

1. NRC License No. 19-00915-03 inspection and licensing records.
2. NRC License No. 19-00915-06 inspection and licensing records.
3. Remediation Plan for the Former Burial Sites at the Moore Air Base, dated May 2005 [ADAMS Accession No. ML051300095].
4. Title 10, Code of Federal Regulations, Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions."

The application for the license amendment and supporting documentation are available for inspection at NRC's Public Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. Any questions with respect to this action should be referred to Sattar Lodhi, Materials Security & Industrial Branch, Division of Nuclear Materials Safety, Region I, 475 Allendale Road, King of Prussia, Pennsylvania 19406, telephone (610) 337-5364, fax (610) 337-5269.

Dated at King of Prussia, Pennsylvania this 6th day of April, 2006.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

John D. Kinneman, Chief
Materials Security & Industrial Branch
Division of Nuclear Materials Safety
Region I

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