UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

September 23, 2004

Jolene Johnson, Deputy Administrator
Nevada Division of Environmental Protection
333 N. Nye Lane
Carson City, NV 89703

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT RELATED TO CONSIDERATION OF REQUEST FOR DISPOSAL UNDER 10 CFR 20.2002 BY THE U.S. DEPARTMENT OF THE AIR FORCE BYPRODUCT MATERIALS LICENSE 42-23539-01AF

Dear Ms. Johnson:

The U.S. Nuclear Regulatory Commission is considering the application request made by the U.S. Department of the Air Force for disposal of four M-47 tanks containing depleted uranium (DU), from the 98th Range Wing at Nellis Air Force Base, Nevada. The request for approval is submitted pursuant to Section 20.2002 of Title 10 of the Code of Federal Regulations (10 CFR 20.2002), "Method of Obtaining Approval of Proposed Disposal Procedures." The licensee's proposed disposal is by burial to a Subtitle C RCRA hazardous waste disposal facility.

In conjunction with the respective application, the NRC staff has prepared the enclosed draft Environmental Assessment (EA). We are providing the draft to you for your review and comment. Please forward any comments you have to me by letter within 30 days from the date of this letter.

If you require additional information, please contact Ms. Rachel Browder, Health Physicist, at (817) 276-6552 or the undersigned at (817) 860-8197.

Sincerely,

/RA/

Jack E Whitten, Chief
Nuclear Materials Licensing Branch

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

Enclosure: As Stated

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U.S. NUCLEAR REGULATORY COMMISSION
DOCKET NUMBER 030-28641
ENVIRONMENTAL ASSESSMENT RELATED TO REQUIREMENTS IN 10 CFR 20.2002
FOR PROPOSED DISPOSAL PROCEDURES FOR THE
U.S. DEPARTMENT OF THE AIR FORCE
BYPRODUCT MATERIALS LICENSE 42-23539-01AF

Introduction

The U.S. Nuclear Regulatory Commission (NRC) staff is considering a June 23, 2004, request by the U.S. Department of the Air Force (Air Force or Licensee), Master Materials License 42-23539-01AF, to dispose of four M-47 tanks containing depleted uranium (DU), from the 98th Range Wing at Nellis Air Force Base, Nevada. The request for approval is submitted pursuant to Section 20.2002 of Title 10 of the Code of Federal Regulations (10 CFR 20.2002), "Method of Obtaining Approval of Proposed Disposal Procedures." The licensee's proposed disposal is by burial to a Subtitle C RCRA hazardous waste disposal facility.

Four U.S. Army M-47 tanks were used for target practice at Nellis Air Force Base, Nevada. The M-47 tanks were contaminated with depleted uranium from A-10 aircraft target practice. Each tank contains less than 40 GAU-8 30mm depleted uranium rounds; each round contains 300 grams of depleted uranium. As a result of the kinetic energy released when a tank is hit by a depleted uranium round, some of the depleted uranium from the round will bond with the metal surrounding the entry point and the interior of the chamber. The depleted uranium is a metal form with a minor contribution as an oxide. The mass of the depleted uranium per tank is approximately 12 kg and when averaged over the mass of the tank (60 tons), the source material is less than one-twentieth of 1 percent (0.05 percent) of the mixture. The licensee demonstrated by calculation that the potential dose consequence is less than 1 mrem per year, as a result of the proposed burial of the M-47 tanks in a RCRA facility. This Environmental Assessment (EA) has been developed in accordance with the requirements of 10 CFR 51.21.

Proposed Action

The proposed action is the removal of four (4) M-47 tanks from Nellis Air Force Base, Nevada, transportation of the respective tanks and their disposition at the US Ecology facility in Grand View, Idaho. The licensee has conservatively assumed the inventory of depleted uranium in each of the four M-47 tanks and calculated the potential dose as less than 1 mrem per year, if all four tanks were to be disposed of in such a facility. The proposed action is in accordance with the licensee's application dated June 23, 2004, requesting approval.

Need for Proposed Action

The licensee needs to dispose of four M-47 tanks because there is an ongoing effort to clean up and maintain the range in lieu of waiting until there are extensive objects which require disposition or decontamination. The four M-47 tanks contain less than 0.022 percent by weight of depleted uranium and the licensee needs to dispose of the tanks at US Ecology, Idaho, which is a Subtitle C RCRA hazardous waste disposal facility.

Alternatives to the Proposed Action

Alternatives to the proposed action include: (1) no action alternative, (2) decontamination of the M-47 tanks, or (3) handling the M-47 tanks as low-level radioactive waste and shipping them to a low-level waste facility. The U.S. Department of the Air Force performed an evaluation to determine if the costs to decontaminate the M-47 tanks would be comparable to or less than the costs for burial in a Subtitle C RCRA hazardous waste disposal facility. For the respective four M-47 tanks, the U.S. Department of the Air Force determined the costs for burial would be less than attempting to decontaminate the tanks. Disposal of the four M-47 tanks in the manner proposed is protective of the health and safety, is consistent with as low as reasonably achievable and is the most cost-effective alternative.

Environmental Impacts of the Proposed Action

The four M-47 tanks were stored in Range 63, Target Area 10, at Nellis Air Force Base. Nellis Air Force Base is located approximately 8 miles northeast of Las Vegas, Nevada. The base itself covers more than 14,000 acres, while the total land area occupied by Nellis and its restricted ranges is about 5,000 square miles. The 98th Range Wing is responsible for the 2.9 million acre Nevada Test and Training Range, located just north of Las Vegas. The distance between Las Vegas and US Ecology, Idaho, is approximately 800 miles. The driving time would be approximately 16 hours (assuming average speed of 50 miles per hour).

The NRC has completed its evaluation of the proposed action and concludes there are no significant radiological environmental impacts associated with the disposal of four M-47 tanks to US Ecology, Idaho, which is a Subtitle C RCRA hazardous waste disposal facility. The licensee's analysis conservatively assumed the inventory of depleted uranium in each of the four M-47 tanks was the maximum number of penetrators (i.e., 40 rounds) that potentially hit each tank. The licensee analyzed the dose to a transport driver, loader, burial worker, and long-term impacts to a residence. While the licensee did not analyze the groundwater impacts from the disposal, staff reviewed previous analyses in support of NUREG-1640, "Radiological Assessment for Clearance of Materials from Nuclear Facilities," which indicated that the groundwater pathway is not a controlling factor for depleted uranium. Each of the analyses conservatively estimated the exposure to less than 1 mrem total dose per year. The proposed action will not significantly increase the probability or consequences of accidents and there is no significant increase in occupational or public radiation exposures.

With regard to potential non-radiological impacts, the proposed action does not involve any historic sites nor does it affect non-radiological plant effluents. There may be a slight increase in air quality and noise impacts during the loading and transportation of each tank. However, there are no expected adverse impacts to air quality as a result of the loading and transportation of the four M-47 tanks. These activities will be short in duration and minimal as compared to other activities at the base. Therefore, there are no significant non-radiological environmental impacts associated with the proposed action.

Accordingly, the NRC concludes there are no significant environmental impacts associated with the proposed action.

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 implications from the no-action alternative is that the tanks would remain on the range until disposition sometime in the future. The impacts would therefore be limited to the site, and there would be no transportation impacts and no disposal considerations or impacts until sometime in the future.

Another alternative to the proposed action, is that the licensee may consider decontamination of the four M-47 tanks. The environmental impacts as a result of this alternative would increase the air quality, noise and water usage, as necessary, during the decontamination process. Additionally, there would be an increase in occupational exposure as a result of the decontamination process.

Disposing of the four M-47 tanks in a low-level waste disposal facility is another alternative to the proposed action. This alternative has similar environmental impacts as the proposed action.

Agencies and Persons Consulted

This EA was prepared by Rachel S. Browder, M.S., Health Physicist, Nuclear Materials Licensing Branch, Division of Nuclear Materials Safety (DNMS), Region IV. NRC staff determined that the proposed action is not a major decommissioning activity and will not affect listed or proposed endangered species, nor critical habitat. Therefore, no further consultation is required under Section 7 of the Endangered Species Act. Likewise, NRC staff determined that the proposed action is not the type of activity that has the potential to cause effects on historic properties, as the M-47 tanks are currently residing in Range 63, Target Area 10, at Nellis Air Force Base. Therefore, no consultation is required under Section 106 of the National Historic Preservation Act. The NRC provided a draft of its Environmental Assessment (EA) to the following individuals:

Stan Marshall, Supervisor
Radiological Health Section Nevada State Health Division
Bureau of Health Protection Services
1179 Fairview Drive, Suite 102
Carson City, NV 89701-5405

Jolene Johnson, Deputy Administrator
Nevada Division of Environmental Protection
333 N. Nye Lane
Carson City, NV 89703

Doug Walker
Senior Health Physicist
State INEEL Oversight Program
900 North Skyline, Suite B
Idaho Falls, ID 83402-1718

Conclusion

The NRC staff concluded that the proposed action complies with the criteria in 10 CFR 20.2002 for alternate disposal method. No significant radiological, non-radiological, or cumulative impacts were identified with regard to the proposed action. Therefore, the staff have determined that an environmental impact statement for the proposed action is not required.

Sources Used

US NRC Radioactive Materials License: Department of the Air Force
Docket Number 030-28641, License Number 42-23539-01AF

U.S. Department of the Air Force, Request for Burial of Four Tanks Containing Unimportant Quantities of NRC Licensed Radioactive Materials (Depleted Uranium rounds) at the US Ecology Hazardous Waste Treatment and Disposal Facility in Idaho. (ML041810555)

NRC Technical Review of Code of Federal Regulation (10 CFR) Part 20.2002 Request by U.S. Department of the Air Force. (ML042120512)

NRC 10 CFR 20.2002, “Method of Obtaining Approval of Proposed Disposal Procedures”

NUREG-1640, “Radiological Assessment for Clearance of Materials from Nuclear Facilities”

NUREG-1748, “Environmental Review Guidance for Licensing Actions Associated with NMSS Programs”