



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

October 12, 2005

MEMORANDUM TO: Michael T. Lesar, Chief  
Rules Review and Directives Branch  
Division of Administrative Services  
Office of Administration

FROM: Jack E. Whitten, Chief  
Nuclear Materials Licensing Branch  
Division of Nuclear Materials Safety  
Region IV

SUBJECT: NOTICE OF ISSUANCE OF LICENSE AMENDMENT FOR U.S.  
DEPARTMENT OF THE AIR FORCE

Attached please find one signed original of the subject *Federal Register* notice for your transmittal to the Office of the Federal Register for publication. Also attached are five copies of the signed notice and 3.5" diskette and CD rom, with the notice in WordPerfect 10.0.

ADM/DAS/RDB has been given owner's rights to the Notice in ADAMS [   ML# of Notice   ]. Publicly available NRC documents referenced in the Notice have been finalized in ADAMS and profiled for public release. ADAMS accession numbers for all such documents are provided in the text under Further Information. The Further Information section also tells the public how to obtain the documents which are referenced in the Notice if there are problems with accessing the documents located in ADAMS.

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

Contact: Rachel S. Browder, Region IV, DNMS  
(817) 276-6552

EA for USAF DU Tanks

cc: (via ADAMS distrib):

LDWert

CLCain

JEWhitten

DBSpitzberg

SCFlanders

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5th Floor Material Docket Files

SISP Review Completed: RSB ADAMS: ☒ Yes ☐ No Initials: RSB

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**U.S. NUCLEAR REGULATORY COMMISSION**  
**[DOCKET NUMBER 030-28641]**  
**Environmental Assessment and Finding of No Significant Impact**  
**for Department of the Air Force's Request for 10 CFR 20.2002 Authorization,**  
**to Disposal of Four Tanks Containing Depleted Uranium to a**  
**Subtitle C RCRA Hazardous Waste Disposal Facility**

**AGENCY:** U.S. Nuclear Regulatory Commission

**ACTION:** Notice of Availability

**FOR FURTHER INFORMATION CONTACT:** Rachel S. Browder, M.S., Health Physicist,  
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**SUPPLEMENTAL INFORMATION:**

**I. Introduction**

The U.S. Nuclear Regulatory Commission (NRC) is considering approval of a request dated June 23, 2004, by the U.S. Department of the Air Force (Air Force), for disposal of four M-47 tanks containing depleted uranium (DU) from the 98<sup>th</sup> Range Wing at Nellis Air Force Base, Nevada, to a Subtitle C RCRA hazardous waste disposal facility. The request for approval is submitted pursuant to 10 CFR 20.2002, "Method of Obtaining Approval of Proposed Disposal Procedures." NRC staff evaluated the licensee's analyses of disposal to a Subtitle C RCRA hazardous waste disposal facility, to demonstrate compliance with 10 CFR 20.2002. The staff used the general guidance for dose modeling as documented in NUREG-1727, SRP 5.2, and supplemented by the decommissioning-specific guidance of the license termination rule. The dose assessment for the disposal of the subject material would result in doses less than 0.01 millisievert (1 millirem) per year. This action will revise the Air Force Master Materials

License No. 42-23539-01AF, to authorize the specific disposal of four M-47 tanks containing DU material to a Subtitle C RCRA hazardous waste disposal facility, pursuant to 10 CFR 20.2002, for procedures not otherwise authorized in the regulations of this chapter. This proposed action would also exempt the low-contaminated material authorized for burial from further Atomic Energy Act (AEA) and NRC licensing requirements. The NRC staff has prepared an Environmental Assessment (EA) in support of this action in accordance with the requirements of 10 CFR Part 51. The NRC has determined that a Finding of No Significant Impact (FONSI) is appropriate for the proposed action.

## **II. Environmental Assessment**

### Background

The Air Force used four U.S. Army M-47 tanks as target practice at Nellis Air Force Base, Nevada. The M-47 tanks were contaminated with DU, as a result of A-10 aircraft target penetrator rounds. Each tank contains less than forty GAU-8 30mm DU rounds; each round contains 300 grams of DU. As a result of the kinetic energy released when a tank is hit by a DU round, some of the DU from the round will bond with the metal surrounding the entry point and the interior of the chamber. The DU is a metal form with a minor contribution as an oxide. The mass of the DU 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 Air Force demonstrated by calculation that the potential dose consequence is less than 1 mrem per year, based on the proposed burial of the M-47 tanks in a RCRA facility.

### Identification of the Proposed Action

The proposed action is approval of the disposal of four (4) M-47 tanks from Nellis Air Force Base, Nevada, to US Ecology facility in Grand View, Idaho, which is a Subtitle C RCRA

hazardous waste disposal facility. The Air Force has conservatively assumed the inventory of DU in each of the four M-47 tanks and calculated the potential dose as being less than 1 mrem per year, if all four tanks were to be disposed of, in such a facility. This proposed action would also exempt the low-contaminated material authorized for burial from further Atomic Energy Act (AEA) and NRC licensing requirements.

#### The Need for the Proposed Action

The proposed action is needed to dispose of four M-47 tanks at a RCRA Subtitle C hazardous waste disposal facility. The Air Force maintains the clean-up of the range at Nellis Air Force Base by implementing an on-going process to dispose of objects that require disposition or decontamination in lieu of postponing clean-up efforts until there are extensive objects which require disposition. Therefore, the disposal of the four M-47 tanks are part of the Air Force on-going maintenance efforts on the range.

#### Alternatives to the Proposed Action

The 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 the tanks to a licensed low-level waste facility. 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 Air Force determined the costs for burial would be less than the cost 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 used as target practice 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 98<sup>th</sup> 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 Air Force's dose analysis conservatively assumed the same driver transported all four tanks in four separate shipments.

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 Air Force's analyses conservatively assumed the inventory of DU in each of the four M-47 tanks was the maximum number of penetrators (i.e., 40 rounds) which potentially hit each tank. The Air Force analyzed the dose to a transport driver, loader, burial worker, and long-term impacts to a residence. While the Air Force did not analyze the groundwater impacts from the disposal, the NRC 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 DU. Each of the analyses conservatively estimated the exposure to less than 1 mrem total dose per year.

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.

The NRC has evaluated whether cumulative environmental impacts could result from an incremental impact of the proposed action when added to other foreseeable actions in the area. The proposed NRC approval of the 10 CFR 20.2002 alternative disposal procedure, when combined with known effects on resource areas of the site, are not anticipated to result in any cumulative impacts at the site.

The proposed action and attendant exemption of the material from further AEA and NRC licensing requirements will not significantly increase the probability or consequence of accidents, no changes are being made in the types of effluents that may be released off site, and there is no significant increase in occupational or public radiation exposure. 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 Air Force may consider decontamination of the four M-47 tanks. The environmental impacts would increase as a result of this alternative from the air quality, noise and water usage 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.

### Conclusion

Based on its review, the NRC staff finds that the environmental impact of the proposed action are either similar to, or less impactful than, the alternatives to the proposed action. If the proposed action is denied, the licensee may be required to ship the material to an off-site low level radioactive waste disposal facility. The costs associated with off-site disposal at a low-level waste facility greatly exceeds the cost of burial under the proposed action, with no significant benefit to the environment. Since the proposed action will not significantly impact the quality of the human environment, and the proposed action complies with the criteria in 10 CFR 20.2002 for alternate disposal procedure, the NRC staff concludes that the proposed action is the preferred alternative.

### Agencies and Persons Consulted

The NRC staff has 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.

On September 23, 2004, the staff consulted with two Nevada State officials, Mr. Stan Marshall of the Radiological Health Section of the Nevada State Health Division, Bureau of Health Protection Services and Ms. Jolene Johnson of the Nevada Division of Environmental Protection, regarding the environmental impact of the proposed action. Neither State Official had any comments regarding the draft EA. Additionally, the staff consulted with the Idaho State



official, Mr. Doug Walker of the Idaho Department of Environmental Quality. On November 2, 2004, the State of Idaho, Department of Environmental Quality, provided comments regarding the draft EA, and those comments have been incorporated in the final EA.

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

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

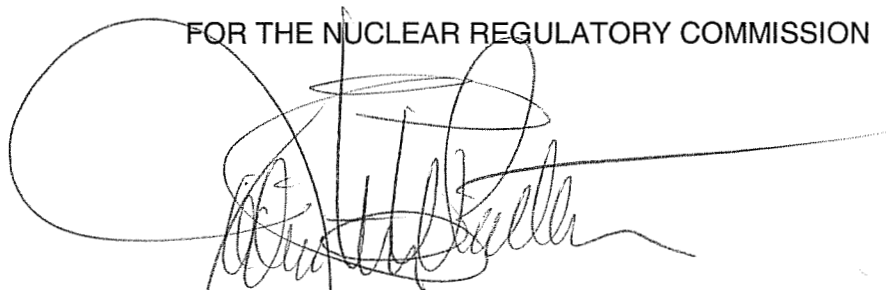
### **IV. Further Information**

Documents related to this action, including the license amendment request and supporting documentation, are available electronically at the NRC's Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. From this site, you may access the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. The ADAMS accession numbers for the documents related to this notice are: U.S. NRC Radioactive Materials License: Department of the Air Force, Docket Number 030-28641, License Number 42-23539-01AF; Request letter dated June 23, 2004, U.S. Department of the Air Force (ML041810555); NRC Technical Review of Code of Federal Regulation (10 CFR) Part 20.2002 request by U.S. Department of the Air Force (ML042120512); Safety Evaluation Report, August 5, 2005 (ML052170209); Environmental Assessment and FONSI. August 5, 2005 (ML052170216); Title 10 Code of Federal Regulations, 20.2002, "Method of Obtaining Approval of Proposed Disposal Procedures"; and Title 10 Code of Federal Regulations, Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions."

If you do not have access to ADAMS or if there are problems with accessing the documents located in ADAMS, contact the NRC Public Document Room (PDR) Reference staff at (800) 397-4203, (301) 415-4737, or by e-mail to [pdrr@nrc.gov](mailto:pdrr@nrc.gov). These documents may also be viewed electronically on the public computers located at the NRC's PDR, O1 F21, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852. The PDR reproduction contractor will copy documents for a fee. The PDR is open from 7:45 a.m. to 4:15 p.m., Monday through Friday, except on Federal holidays.

Dated at Arlington, Texas this 12 day of October, 2005

FOR THE NUCLEAR REGULATORY COMMISSION

A large, stylized handwritten signature in black ink, appearing to read 'Jack E. Whitten', is written over the text 'FOR THE NUCLEAR REGULATORY COMMISSION' and the name 'Jack E. Whitten, Chief'.

Jack E. Whitten, Chief

Nuclear Materials Licensing Branch

Division of Nuclear Materials Safety

Region IV