



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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June 28, 2005

MEMORANDUM TO: Michael T. Lesar, Chief
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Division of Administrative Services
Office of Administration

FROM: D. Blair Spitzberg, Ph.D., Chief /RA/
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Division of Nuclear Materials Safety
Region IV

SUBJECT: PUBLICATION OF ENVIRONMENTAL ASSESSMENT AND FINDING
OF NO SIGNIFICANT IMPACT IN THE FEDERAL REGISTER

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[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[Docket No. 030-28641]

**Notice of Environmental Assessment and Finding of No Significant Impact for Approval
of Decommissioning Plan for Test Area C-74L at Eglin Air Force Base, Florida**

AGENCY: Nuclear Regulatory Commission.

ACTION: Environmental Assessment and Finding of No Significant Impact for License Amendment.

FOR FURTHER INFORMATION CONTACT: D. Blair Spitzberg, Ph.D., Chief, Fuel Cycle and Decommissioning Branch, Division of Nuclear Materials Safety, Region IV, U.S. Nuclear Regulatory Commission, 611 Ryan Plaza Drive, Suite 400, Arlington, TX 76011.

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SUPPLEMENTARY INFORMATION:

I. Introduction

The Department of the Air Force (the licensee) submitted a decommissioning plan (DP) to the U.S. Nuclear Regulatory Commission (NRC) by Memorandum dated May 24, 2002. Supplemental information was provided by Memoranda dated November 1, 2002, August 21, 2003, October 27, 2004, and January 13, 2005. The licensee requested that the DP for Test Area C-74L at Eglin Air Force Base (AFB) be approved. The NRC is considering the issuance of an amendment to Master Materials License 42-23539-01AF which will approve the DP. If approved by the NRC, the licensee will be authorized to conduct decommissioning activities in accordance with the DP.

The NRC has prepared an Environmental Assessment (EA) in support of this licensing action in accordance with the requirements of 10 CFR Part 51. The EA was developed to provide sufficient evidence and analysis for determining whether to prepare an Environmental

Impact Statement or Finding of No Significant Impact (FONSI). Based on the results of the EA, the NRC has determined that a FONSI is appropriate.

II. Environmental Assessment

Proposed Action

The proposed action is to approve the DP which will allow the licensee to conduct decommissioning in accordance with the procedures and processes provided in the DP. The approval of the DP would be accomplished by license amendment to NRC Materials License 42-23539-01AF following the NRC decision that the DP meets the standards specified in 10 CFR Part 20 and related NRC guidance documents.

The Need for the Proposed Action

The licensee intends to remediate Test Area C-74L and ultimately remove the site from its license (and the associated AFB radioactive material permit) because it no longer conducts NRC-licensed activities at this location. If the site is properly decommissioned, the licensee would then be in compliance with the Timeliness Rule requirements of 10 CFR 30.36, "Expiration and Termination of Licenses and Decommissioning of Sites and Separate Buildings or Outdoor Areas."

Environmental Impacts of the Proposed Action

Test Area C-74L is located in Walton County, Florida, within the north-central portion of Eglin AFB. The site is located approximately 14 miles northwest of the city of Niceville, Florida. The test area lies within Section 11 of Range 21 West, Township 2 North. The test area currently consists of a 4-acre radiologically controlled area, fire control/ballistics building, gun corridor, target area, well house building, drum storage area, and surrounding land.

From late-1974 to 1978, the area was used for pre-production testing of a gun system which used depleted uranium (DU) ammunition. The licensee elected to discontinue DU

munitions testing at this location. An estimated 16,315 pounds of DU was expended at the site. Approximately 9,257 pounds of DU were collected and disposed of during remediation activities conducted between March 1978 and June 1987. The remainder of the material has since been remediated, was dispersed or vaporized as part of DU ordinance testing, or remains onsite and requires remediation.

The portions of the site that may have been contaminated with DU fragments include the ballistic building interior, ballistic and well house building exteriors, target area, 4-acre radiologically restricted grounds, and two drainage ditches. Previous radiological investigations included at least six soil sampling events that occurred between 1976-1999. Limited reclamation activities have been conducted several times since 1980. A detailed site characterization study was conducted during 1999 followed by additional limited characterization studies during 2000-2001. At that time, the only area remaining to be remediated was the 4-acre radiologically controlled area.

The ballistic building interior was not expected to contain radioactive material in measurable quantities, in part, because the building was not used to store DU munitions. The well house building was constructed after completion of DU testing although the land beneath the building was not radiologically surveyed prior to construction. The exteriors of these two buildings may contain small amounts of contamination as a result of possible wind dispersion of DU fragments.

Two drainage ditches are located on site property. Sample results indicated measurable quantities of radionuclides above background values. The licensee does not expect to conduct remediation activities in these ditches because the residual radioactivity is expected to be at levels below the NRC-approved release criteria.

The radiological criteria for unrestricted use is provided in 10 CFR 20.1402. This regulation states that a site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a total effective dose equivalent to an average member of the public that does not exceed 25 millirems (0.25 mSv) per year, including that from groundwater sources of drinking water, and that the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA).

Current NRC guidance (Section 2.5 of NUREG-1757, Volume 2, "Consolidated NMSS Decommissioning Guidance") recommends that licensees demonstrate compliance with the dose criteria by using dose modeling or derived concentration guideline levels (DCGLs) and final status survey results. The licensee's request to release the site for unrestricted use will be based on use of DCGLs and final status survey results. In the DP, the licensee proposes DCGLs for building interiors, building exteriors, equipment, and site soils. Through an internal review process, the NRC accepted the licensee's proposed building and equipment DCGLs, but rejected the licensee's proposed soil DCGL. By Memorandum dated August 21, 2003, the licensee accepted the NRC's alternate proposal for soil DCGL.

Upon completion of the decommissioning project, the licensee is expected to submit the final status survey results to the NRC for review and approval. In addition, the NRC will conduct confirmatory sampling. If the results of the final status survey and any confirmatory surveys performed are below the NRC-approved DCGLs, the site will be found to be in compliance with the annual dose limit provided in 10 CFR 20.1402. If the surveys indicate that the results are above the DCGLs, then additional remediation may be necessary. Alternatively, the licensee will have to conduct an analysis to demonstrate that the survey results demonstrate compliance with the dose criteria.

The remediation activities will result in potential exposure of workers to radioactive material. The primary radionuclide of concern is uranium-238. The DU is expected to be in the form of solid uranium oxide or uranium metal fragments. The primary health hazard is inhalation of DU. The health effects from DU include both chemical and radiological toxicity with the two important target organs being the kidneys and the lungs. In general, the health consequences are determined by the physical and chemical form of the DU as well as the level and duration of exposure.

To prevent potential health consequences from exposure to DU, the licensee has initiated a radiological safety program. External occupational exposure rates to DU is expected to be minimal based on previous exposure data. The internal exposure pathways will be controlled and monitored as necessary by the use of personnel protective equipment, strict hygiene practices, and air particulate and bioassay sampling. The licensee's proposed program for control of exposure to radioactive materials is typical for the type of work being conducted and is considered acceptable to the NRC to maintain occupational exposures within NRC limits.

The Air Force, or a contractor for the Air Force, will be responsible for packaging and transporting the low-level radioactive wastes. Remediation of the site may have short-term non-radiological health and safety risks caused by the excavation, packaging, and shipping of the residual radioactive material. These non-radiological impacts include the normal risks of exhuming the wastes with earth-moving equipment and transportation of the material to an out-of-state disposal facility. The risks include injury or death from a construction or transportation accident.

There should be minimal risk to members of the public from exposure to radioactive wastes during transport because the radionuclides of concern will be dispersed within the soil,

contained in authorized shipping containers, and shipped in accordance with U.S. Department of Transportation requirements.

The reclaimed material will be transported to an out-of-state low level radioactive waste disposal facility licensed to accept and dispose of the wastes. The radiological health risks would be minimal to the workers of the disposal facility, in part, because the facility would have a radiation protection program in place to protect its workers. However, there is still a small risk of an occupational accident occurring while handling the waste material.

In summary, the combination of the NRC-approved DCGLs, the licensee's proposed final status survey results, and the NRC's confirmatory survey results should demonstrate that annual doses to future occupants of the site will be less than the NRC's radiological criteria for unrestricted use of the facility. Additional details of the licensee's radiation safety program and NRC-approved DCGLs will be provided in the NRC's Safety Analysis Report that will be used to support the licensing decision. Furthermore, the radiological impacts of releasing the site for unrestricted use are bounded by the impacts evaluated in NUREG-1496, "Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities."

The proposed action will have a short-term detrimental effect on the impacted area. The licensee plans to scrap portions of the ground surface to remove any residual radioactive material. This action will result in destruction of the cover vegetation and top soil, and may create airborne dust. In response, the licensee plans to implement a program that will minimize any long term damage. Dust suppression methods will be utilized as necessary. The area will be backfilled and revegetated if scraped.

The site includes two drainage ditches. One ditch is located on the south side of the property and drains to the south-south east. The second ditch is located in the northeastern portion of the property and drains towards the northeast. There are two streams in the vicinity

of Test Area C-74L. Rocky Creek is located about 700 feet (213 meters) south of the controlled area. A tributary to Rocky Creek is located about 1800 feet (549 meters) to the west of the site. A small dammed pond is located within the western tributary. The groundwater flow is anticipated to have a southward component towards Rocky Creek. Therefore, the remediation of the site has the potential for impacting the wildlife habitat in and around Rocky Creek.

The NRC consulted with the U.S. Fish & Wildlife Service because the reclamation of the site could have an impact on the habitat of an endangered species, the Okaloosa darter. Okaloosa darters are found only in the Choctawhatchee Bay drainage in Florida, where they inhabit vegetated sand runs of clear creeks. According to the U.S. Fish & Wildlife Service, approximately 90 percent of the watershed drainage area in which the Okaloosa darter occurs is under the management of Eglin AFB.

To protect the darter's habitat, the licensee has taken or plans to take several actions. First, an earthen berm currently exists on the southern portion of the radiologically restricted area. This berm is expected to help prevent contaminated soil from leaving the controlled area. Silt fencing will be used as necessary to supplement the berm. Manual remediation of areas of elevated activities in lieu of heavy equipment will help reduce the need for mechanical removal of the top six inches of soil in some areas. Dust suppression methods, including water trucks, will be utilized as necessary to prevent the spread of windblown contamination during reclamation. A decontamination pad will be used as necessary to decontaminate equipment. The licensee believes that light rain will percolate into the ground, although heavy rains may transport some soil material into the two drainage ditches. Scraped surface areas will be covered with plastic sheeting as necessary until backfilled.

With respect to other potentially endangered or threatened species, the licensee claims that the indigo snake has been seen in the vicinity of Test Area C-74L but does not live within the radiologically controlled area. Reclamation activities are not expected to adversely impact

the habitat of the indigo snake on Eglin AFB ranges. Further, the licensee claims that there are no red cockaded woodpecker colonies within Test Area C-74L. The U.S. Fish and Wildlife Service ultimately decided that the proposed action (reclamation of the site) was not likely to adversely affect resources protected by the Endangered Species Act of 1973, as amended. This conclusion was reported to the NRC by letter dated February 25, 2004.

The surficial groundwater is about 50-60 feet (15-18 meters) below land surface. Geologic literature indicates that the surficial aquifer beneath the site extends to approximately 125 feet (38 meters) below land surface. The Pensacola Clay separates the surficial aquifer from the underlying Floridian aquifer system. The Pensacola Clay layer is about 160 feet (49 meters) thick, meaning that the drinking water aquifer is no less than 285 feet (87 meters) below the land surface. The hydraulically impenetrable Pensacola Clay layer would be expected to prevent any contamination that might be present in the surficial groundwater from reaching the Floridian aquifer system even if the surficial groundwater was contaminated with DU.

The licensee has conducted site characterization studies and concluded that the land surface contamination of DU has not impacted the groundwater. Most contamination is found within the first 6 inches (15 centimeters) of soil except in selected locations. In these discrete locations, contamination is no more than 4 feet (1.2 meters) below the land surface. There are two drinking water wells in the vicinity of the site. One is located onsite and is 644 feet (196 meters) deep. The second is located a half-mile (0.8 kilometers) away and has been permanently abandoned. The onsite drinking water well was sampled during 1983, and the sample result indicated no measurable quantities of radioactive materials above background values. Because the surficial groundwater is located 50-60 feet (15-18 meters) below surface, and the drinking water aquifer is located at least 285 feet (87 meters) below surface, the NRC

concluded that the probability that DU contamination has impacted either the surficial or drinking water aquifer is highly unlikely.

Environmental Impacts of the Alternatives to the Proposed Action

The licensee seeks NRC approval of the DP. The alternatives to the proposed action are: (1) the no-action alternative, or (2) to deny the amendment request and require the licensee to take some alternate action.

1. No-Action Alternative

One alternative available to the NRC is to take no action by denying the amendment request. Denial of the DP submittal would result in no change in current environmental conditions. The no-action alternative is not a feasible alternative because it will result in violation of the NRC's Timeliness Rule (10 CFR 30.36), which requires licensees to decommission their facilities when licensed activities cease.

2. Environmental Impacts of Alternative 2

A second alternative is to deny the licensee's request in favor of alternate release criteria as allowed by §20.1403 (criteria for restricted conditions) or §20.1404 (alternate criteria). However, the NRC's analysis confirmed that the proposed action (approval of the DP as submitted) meets the license termination requirements of §20.1402. Accordingly, the NRC has determined that the second alternative is not reasonable. Therefore, this alternative action is eliminated from further consideration in this EA.

Conclusion

Based on its review, the NRC staff has concluded that the environmental impacts associated with the proposed action do not warrant denial of the license amendment request. The NRC staff believes that the proposed action will result in minimal environmental impacts, including those to endangered species and critical habitats. The staff has determined that the proposed action, approval of the DP, is the appropriate alternative for selection.

Agencies and Persons Contacted

The NRC staff consulted with both the Florida State Historic Preservation Officer and the local U.S. Fish & Wildlife Service office. The Florida Department of State, Division of Historical Resources stated that no historic properties were known to exist in the area; therefore, the proposed decommissioning will have no effect on historic properties. The U.S. Fish & Wildlife Service has informed the NRC that the proposed action (site reclamation) is not likely to adversely affect protected resources including endangered species and critical habitats. The NRC staff also consulted with the Florida Department of Health, Bureau of Radiation Control. By letter dated May 19, 2005, the State responded that it had no objections to the proposed EA and FONSI.

III. Finding of No Significant Impact

The NRC staff has concluded that the proposed action (amend the Air Force's license to approve the DP) complies with both the Timeliness Rule requirements of 10 CFR 30.36 and License Termination Rule requirements of 10 CFR 20.1402. On the basis of this EA, the 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.

IV. Further Information

A copy of this document will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system. From this site, you can access the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. The following references are available for inspection at NRC's Public Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic

Reading Room). ADAMS accession numbers are located in parentheses following the reference.

1. NRC, "Generic Environmental Impact Statement in Support of Rulemaking on Radiological Criteria for License Termination of NRC-Licensed Nuclear Facilities," NUREG-1496, July 1997 (ML042310492).
2. Pugh, Capt. David L., Department of the Air Force Memorandum, "Review of Decommissioning Plan for Eglin AFB, Florida," May 24, 2002 (ML021970666, ML021970669, ML021980188, ML021980239, ML021990724, ML021990330, ML021990377, ML021990737, ML021990743).
3. Pugh, Capt. David L., Department of the Air Force Memorandum, "Clarification Request For C-74L Decommissioning Plan," November 1, 2002 (ML023370482, ML023370535, ML023370648, ML023370660, ML023370675, ML023380282, ML023380332).
4. Brockman, Ken E., NRC Letter to Air Force, "Acknowledgment of Receipt of Decommissioning Plan," November 25, 2002 (ML023290265).
5. Spitzberg, D. Blair, NRC Memorandum, "Notice of Consideration of Amendment Request for Department of the Air Force, Eglin Air Force Base, Florida, and Opportunity for Providing Comments and Requesting a Hearing," January 27, 2003 (ML030270180).
6. Brockman, Ken E., NRC Memorandum, "Regional Technical Assistance Request Form," January 29, 2003 (ML030300253).
7. Cain, Charles L., "NRC Inspection Report 030-28641/2003-01," February 11, 2003 (ML030420534).
8. Kokajko, Lawrence E., NRC Memorandum, "Review of Derived Concentration Guideline Levels (DCGLs) for Eglin Air Force Base," April 10, 2003 (ML031000111).
9. Cain, Charles L., NRC Letter to Air Force, "Request for Additional Information Regarding Eglin Air Force Base Decommissioning Plan," April 24, 2003 (ML031140240).

10. Spitzberg, D. Blair, NRC Letter to U.S. Fish & Wildlife Service, "Request for Comments Regarding Endangered/Threatened Species and Critical Habitats," June 9, 2003 (ML031600579).
11. Spitzberg, D. Blair, NRC Letter to Florida State Historic Preservation Officer, "Request for Comments Regarding Cultural and Historical Resources at Eglin Air Force Base," June 9, 2003 (ML031600613).
12. Carmody, Gail A., U.S. Fish & Wildlife Service Letter to NRC, "Reclamation and Decommissioning Uranium Munitions Site, Area C-74L," July 7, 2003 (ML031920346).
13. Matthews, Janet Snyder, Florida Department of State Letter to NRC, "Reclamation Activities Within a Four-Acre Property at Test Area C-74L, Walton County," July 8, 2003 (ML032050604).
14. NRC, NUREG-1748, "Environmental Review Guidance for Licensing Actions Associated With NMSS Programs," July 2003 (ML032540811).
15. Mather, Lt. Col. Kali K., Air Force Memorandum to NRC, "Supplement to the Decommissioning Plan for Test Area C-74L, Eglin AFB, FL," August 21, 2003 (ML032450123).
16. NRC, NUREG-1757, "Consolidated NMSS Decommissioning Guidance," Volumes 1-3, September 2003 (ML032530410, ML032530405, ML032471471).
17. Seiber, Stephen M., Air Force Letter to NRC, "No Effect Determination," February 11, 2004 (ML040430157).
18. Spitzberg, D. Blair, NRC letter to U.S. Fish & Wildlife Services, "Request for Comments Regarding Department of Air Force's Determination of No Effect," February 18, 2004 (ML040690296).
19. Carmody, Gail A., U.S. Fish & Wildlife Service's Response to NRC's Letter "Request for Comments Regarding Department of Air Force's Determination of No Effect," February 25, 2004 (ML040690296).

20. Whitten, Jack E., NRC Letter to Air Force, "Request for Additional Information Regarding Eglin Air Force Base Decommissioning Plan," February 19, 2004 (ML040500864).
21. Whitten, Jack E., "NRC Inspection Report 030-28641/04-001," February 25, 2004 (ML040570122).
22. Abell, Capt. Clint E., Air Force Memorandum to NRC, "Decommissioning Plan for Test Area C-74L, Eglin AFB, Florida," October 27, 2004 (ML043410237).
23. Abell, Capt. Clint E., Air Force Memorandum to NRC, "Response to NRC Query of Decommissioning of Test Area C-74L, Eglin Air Force Base, Florida," January 13, 2005 (ML050320251).
24. Passetti, William A., Florida Department of Health Letter to NRC, "Environmental Assessment for Decommissioning of Test Area C-74L at Eglin Air Force Base," May 19, 2005 (ML051640567).

If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room (PDR) reference staff at (800) 397-4209, (301)415-4737 or by email to pdrc@nrc.gov. Documents may also be viewed electronically on the public computers located at the NRC's PDR, O 1 F21, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852. The PDR reproduction contractor will copy documents for a fee.

Dated at Arlington, Texas this 28th day of June 2005.

For the Nuclear Regulatory Commission.

/RA/

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Fuel Cycle & Decommissioning Branch
Division of Nuclear Materials Safety
Region IV