



BACKGROUND

Office of Public Affairs

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License for Depleted Uranium at U.S. Army Sites

The Nuclear Regulatory Commission has completed a program to identify active and inactive U.S. military ranges with depleted uranium, often referred to as DU, and determined that all are under appropriate regulatory oversight through an NRC license and a Memorandum of Understanding between the NRC and the Department of Defense.

The program includes physical security, radiation safety and environmental monitoring at each of 17 military firing ranges where DU was identified, subject to NRC inspection and enforcement. With this oversight, the NRC is confident that DU remaining at these sites does not pose a health or safety risk to members of the military or the public.

Background

Natural uranium is made up of three isotopes: U-234, U-235 and U-238. “Depleted” uranium has a lower percentage of U-234 and U-235 than natural uranium. DU is about twice as dense as lead, making it useful in commercial and military applications. Uranium in a form that dissolves easily can be toxic to the kidneys if ingested in large amounts, such as by inhaling dust or drinking contaminated water. The DU at the Army sites is not believed to be in this soluble form.

A number of Army sites have DU fragments from spotting rounds left from training with the Davy Crockett system from 1960-1968. The Atomic Energy Commission, the NRC’s predecessor, gave the Army a license to make, test and distribute the spotting rounds. Under that license, the Army distributed the rounds for training. Each round contained about six ounces of DU. At the Army’s request, the license expired in 1978, after the Army had stopped producing and distributing the spotting rounds.

In 2005, the Army found tail assemblies from the spotting rounds at the Schofield Barracks on Oahu. This discovery prompted a review of all sites that trained with the system. The Army found DU at other sites, including the Pohakuloa Training Area on the island of Hawaii. Under NRC regulations, the Army must have a license to possess this material. The Army applied for a possession-only license in November 2008. It was not until 2011 that the Army identified all the sites where it used the Davy Crockett system. At that time, the NRC and the Army decided to continue with licensing the two Hawaiian sites and to address the remaining installations through an amendment. The license was issued in 2013 and amended in 2016 to include 15 additional sites.

The DU is mostly in large fragments. It is on operational ranges not accessible to the public. Data the Army collected and analyzed, and the NRC reviewed, show there is no immediate health risk to people who work at the ranges or live or travel nearby. The high density and large fragment size mean the DU cannot easily become airborne or move off-site.

The NRC's role

Part of the NRC's role is to oversee licensed "source material," which includes DU. The NRC license allows the Army to possess up to 12,567 pounds of DU at the sites. It limits the amount of DU the Army can possess at each location. It requires the Army to comply with NRC regulations and standards for protecting the public and the environment from radiation and is subject to NRC inspections and periodic reviews.

The license requires the Army to have environmental monitoring as well as radiation safety and physical security plans. These requirements are meant to ensure the DU will not pose a future health risk. The license does not authorize the Army to use the DU or decommission the sites. Any cleanup would require additional review and approval by the NRC to ensure that public health and safety will continue to be protected.

The sites covered by the license are the Schofield Barracks and Pohakuloa Training Area (Hawaii); Forts Benning and Gordon (Georgia); Forts Campbell and Knox (Kentucky); Fort Carson (Colorado); Fort Hood (Texas); Joint Base Lewis-McChord/Yakima Training Center (Washington); Fort Bragg (North Carolina); Fort Polk (Louisiana); Fort Sill (Oklahoma); Fort Jackson (South Carolina); Fort Hunter Liggett (California); Fort Wainwright (Alaska); Joint Base McGuire-Dix-Lakehurst (New Jersey); and Fort Riley (Kansas).

To complete the program and ensure that all U.S. military sites where DU munitions were used are properly identified and monitored, the NRC staff conducted an extensive search through expired AEC and NRC licenses and other documents. This search did not identify other military ranges where DU was not under appropriate regulatory control. At the NRC's request, the Army, Navy and Air Force reviewed these findings and indicated there were no additional sites to consider.

The NRC's efforts on depleted uranium are described in the September 2020 memorandum, "Results of Implementation Plan to Identify Depleted Uranium on Military Ranges and Determine its Licensing Status." ([ML20188A173](#))

December 2020



M101 Spotting Round (Source: U.S. Army)