Vieques Restoration Advisory Board Meeting Summary of Depleted Uranium Studies







What is Depleted Uranium?



- Depleted Uranium (DU) is the natural uranium isotope U-238 that is separated from natural uranium.
 - DU is less radioactive than the very weakly radioactive natural uranium that is present in most rocks and soils, as well as in many rivers and sea water.
 - The density of DU is about twice that of lead, which makes it useful for several purposes.

Uses of depleted uranium

- The main civilian uses of DU are for counterweights in aircraft, radiation shields in medical radiation therapy machines, and containers for the transport of radioactive materials.
- The military uses DU for defensive armor plates and for armorpenetrating ordnance.

Depleted Uranium (DU) Penetrator and Sabot (Casing)





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Chronology of DU on Vieques



- February 1999 A total of 263 Depleted Uranium (DU) armorpenetrating projectiles were accidentally fired into the former bombing range
- March 1999 Navy submits report to Nuclear Regulatory Commission (NRC)
- June 2000 Navy completes initial phase of recovery of depleted uranium penetrators
 - 37 penetrators were recovered
- September 2000 Navy completes second phase of DU Survey
 - A total of 116 of the 263 penetrators fired were recovered.
- October 2000 NRC completes environmental survey
 - Samples from water, soil, and plants were collected for analysis of uranium
- Since September 2000- Only 6 sabots (casings), and no penetrators, have been recovered.

Survey of North Convoy Target Area - June 2000

Path of Located PenetratorsArea Surveyed in 2000

TCRA Progress Map showing areas of DU survey and DU recovery





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Results of Vieques DU Studies



September 2000 NRC Environmental Survey

- Uranium levels detected in 29 soil samples collected in the civilian areas of Vieques ranged from 0.003 pCi/g to 0.22 pCi/g; which is within the naturally occurring range of 0.2-2 pCi/g*.
- The survey did identify areas of DU contamination in the soil in the area from which the Navy recovered DU penetrators but it did not appear that this contamination had migrated beyond the immediate vicinity of each individual penetrator
- The only radioactive materials detected outside of the former bombing range (the LIA) were naturally occurring materials normally present in the environment.

September 2003 ATSDR Final Health Assessment

 Residents of Vieques are not exposed to levels of radiological contamination that could present a public health hazard, as a result of the Navy's limited past use of depleted uranium penetrators during military training exercises

*National Council on Radiation Protection and Measurement's Report No.45, *Natural Background Radiation in the United States*