



DEPLETED URANIUM

WHAT IS DEPLETED URANIUM?

Depleted Uranium (DU) is a very dense material that is used for some types of kinetic energy penetrator ammunition, in some armours, and as counterweights in some aircraft. DU is less radioactive than naturally occurring Uranium, and, in respect of its potential chemical toxicity, it is more harmful to people as a poison hazard, if they ingest or inhale it, than as a radioactive hazard to people in its proximity.

WHY USE DU?

DU is used by a number of overseas armed forces in munitions because its immense density and strength enhances the penetration ability of the projectile. DU armour has also been stated by the United States (US) to be used for some variants of its Abrams tanks. Such armour is not fitted to Australian M1A1 Abrams tanks.

DU PENETRATORS

Although there is no specific prohibition of DU weapons by international law, a number of foreign defence forces continue to use DU ammunition, though not on Australian training ranges.

The Australian Defence Force (ADF) does not use DU penetrators in any of its weapons systems preferring other materials that provide a similar military effect. The ADF's past use was confined to one specific and limited weapon system used by the Royal Australian Navy. The system was known as 'Phalanx' and was a Close-In-Weapon System that was fitted to some Australian Navy vessels in 1981. Australia began phasing out DU in the mid-1980s replacing it with an Australian-made, environmentally friendly Tungsten (developed by Australian Defence scientists) and it has not been contained in any ammunition used by the ADF since the mid-1990s.

USE OF DU IN IRAQ

The ADF has deployed a Hazard Assessment Team to Iraq to identify and evaluate the environmental and occupational threats, including DU, to ADF personnel within the Al-Muthanna Province. The Hazard Assessment Team conducted key point surveys and collection and analysis of airborne particulate matter. In addition, soil samples were analysed by the Australian Nuclear Science and Technology Organisation.

The Australian Nuclear Science and Technology Organisation analysis of multiple soil and air samples demonstrated that the total uranium levels are low, comparable to the levels found in many other places in the world, and that the isotopic ratios of this uranium is natural, not depleted. On the basis of this information, Defence considers that there is very low risk of adverse health effects from DU in Al-Muthanna. Based on this risk assessment, Defence Health Services did not require ADF personnel to wear radiation dosimeters.

DU AND INTERNATIONAL LAW

There is no specific prohibition in international law on the use of DU munitions. As with any weapon system the intended use of DU munitions must be assessed in accordance with the laws of armed conflict and other international law.

The disposal of waste products, such as DU residue, during armed conflict, is generally the responsibility of the authorities in control of the territory. In future, a new international convention dealing with 'waste products' may apply. It is Protocol V to the *Convention on Certain Conventional Weapons on Explosive Remnants of War*. Australia signed Protocol V in November 2003 and is in the process of ratifying the Protocol. The Protocol commits parties to undertake clearance of explosive remnants such as grenades, shells and other unexploded ordnance following a conflict. The principal obligation to clear remnants of war is on the country controlling the territory, rather than the user of the munition.

USE OF DU WEAPONS BY US ON AUSTRALIAN TRAINING RANGES

The *1963 Status of Forces Agreement* between the US and Australia, clearly provides that the US Government shall conform to the provisions of Australian laws, including environmental, quarantine and industrial laws, and US personnel shall observe those laws and regulations.

There is no agreement that permits US or other foreign forces to use DU munitions on Australian territory. DU has never been in the inventory of munitions approved for use within Australia. There is no evidence that DU has ever been used by Australian or foreign forces within Australia.

POTENTIAL HEALTH IMPACT

Defence takes its responsibility to protect the health of its military personnel, the civilian populations, and both domestic and international environments seriously. ADF personnel being deployed to the Middle East are given a pre-deployment health briefing, which specifically includes information about DU. Troops participating in 'normal' battleground activities would be unlikely to suffer a significant exposure to DU.

Currently, there is significant international controversy over the alleged health effects of DU, and the contribution that low-level radiation exposure may make to the total human cancer experience. Any claims that DU munitions have caused birth defects are currently not supported by scientific evidence. Defence Health Services, in conjunction with the Department of Veterans' Affairs, will continue to monitor any relevant medical studies into these matters.

SCREENING FOR DU

The ADF directly monitors the health of Australian troops and offers elective post-deployment Uranium screening tests, primarily to allay concerns that may otherwise arise of perceived risk of exposure to DU. All tests conducted have returned negative results.

Defence has a health policy in place to test for exposure to DU. This involves a medical screening on return to Australia for deployed personnel who may have been exposed, and for personnel who have concerns about exposure. To date, all tests undertaken have displayed a result within the normal range. Former members of the ADF who are concerned about possible DU exposures from the 1990-1991 Gulf War can approach the Department of Veterans' Affairs for testing.

Screening for exposure to DU is offered to those considered at increased risk, and to those who request it. This testing is provided to allay personal concerns of exposure to DU.

ENVIRONMENTAL ISSUES

As a general rule there are no exemptions from the requirement for Defence activities, including military exercises, to comply with Australia's strict environmental impact assessment laws.

Only weapons approved for use on Australian ranges may be used by the US or other partners during these activities. Munitions containing DU are not approved for use. These policies are understood and adhered to by the US and other partners. If there was ever a proposal by one of our military partners to use DU munitions on Australian training ranges it would have to be thoroughly considered under Australia's environmental laws. In all probability any such proposal would first have to be approved by the Minister for Environment and Heritage.

Defence accepts that everything we do must be underpinned by responsible and sustainable environmental management and performance. Defence has an Environmental Management System that is modeled on the international quality assurance system ISO 14001. The Environmental Management System provides the process for managing any potential environmental risks that might arise from munition residues, chemicals or other potential environmental hazards.

Defence is committed to undertaking its activities in a way that reflects best practice environmental performance. Rigorous environmental management regimes are applied on all Defence training areas. This includes regular community consultations to ensure community needs and expectations are considered, and a 'good neighbour' policy, whereby Defence will go beyond simply complying with Commonwealth legislative requirements.

MONITORING FOR DU CONTAMINATION

Since Defence is confident that DU munitions have never been used on Australian land training ranges it is difficult to identify what areas a monitoring program could usefully target. The process for identifying the minute quantities of DU munition residues from naturally occurring Uranium is also complex and expensive work. For this reason, in the absence of any realistic risk to the environment or people, Defence does not routinely test for evidence of DU munition use at its training ranges. Defence would not object to third parties conducting monitoring for DU on Defence training ranges, at their own expense, and subject to the usual restrictions regarding access and safety.
