

National Academy of Sciences Slams Pentagon's Studies of Uranium Weapons Health Effects

A new National Academy of Sciences (NAS) report out July 30, 2008, regarding military veterans exposed to depleted uranium presents significant findings and recommendations.

The NAS committee formally suggested "that several health outcomes should be given high priority for further study: lung cancer, lymphoma, renal disease, respiratory disease, neurologic outcomes (including neurocognitive outcomes), and adverse reproductive and developmental outcomes."

In a severe critique of Pentagon policy, the NAS has found that the military and the Department of Veterans Affairs (DVA) are using a flawed test — urinalysis — to determine DU exposure. The NAS committee recommends that the Pentagon and DVA "should use the most sensitive" tests available to determine exposure, "other than measuring urinary uranium..."

This criticism of urinalysis, which the Pentagon has been giving to Gulf War, Iraq and Afghanistan veterans for years, is a departure and an indirect endorsement of the far more expensive mass spectrometry test which is difficult to obtain in the U.S. The method is an analytical technique that identifies the chemical composition of a sample on the basis of the mass-to-charge ratio of charged particles.

The NAS says the Pentagon and DVA should study tissues from dead veterans. The NAS committee stated that the "Department of Defense should consider assessing uranium concentrations in lung, kidney and brain tissues from military personnel who were potentially exposed to DU and died while on active duty."

Nearly 3,000 veterans of the Iraq and Afghanistan wars have self-reported possible DU exposures. The NAS recommends that the Pentagon test veterans who have self-reported exposures to DU during the last three years.

While this is potentially significant, if the Pentagon and DVA use the flawed urinalysis, there will likely be many false-negative test results.

The NAS says veterans of the 1991 Doha, Kuwait munitions fire should be tested. Hundreds of veterans were potentially exposed to DU dust after a July 1991 fire at the U.S. base at Doha. (The Summer 2008 *Quarterly* reported that 13 million pounds of DU-contaminated sand from this giant fire were collected in containers and shipped 7,239 miles to the U.S. and dumped in a landfill in Idaho.)

While it is good that the NAS recommends that these veterans be tested for DU exposure using the best available means, the NAS has inexplicably claimed that testing of these veterans (who arrived in theater June

New Hypothesis for DU-Cancer Link

New Scientist reports Sept. 3, that new research may solve the mystery of how depleted uranium contamination (DU) causes genetic damage in cells bombarded by its radioactive decay inside the body.

Chris Busby of the Institute of Plant Nutrition and Soil Science (IPNSS) in Braunschweig, Germany and the University of Ulster, UK, and Ewald Schnug, Director of the IPNSS, claim in a new study that uranium atoms in the body could act as "radiation antennas." They argue that uranium atoms could be capturing photons of background gamma radiation and then re-emitting their energy as fast-moving electrons that act on the surrounding tissue in the same way as beta radiation.

Skeptics responded to the Busby/Schnug study by saying that more detailed calculations and dose estimates are needed to reach firm conclusions. But the authors were enthusiastic about their findings.

Busby and Schnug say that previous risk models have ignored this well-established physical effect. They claim that depleted uranium could be kicking out photoelectrons in the body's most vulnerable spots. Various studies have shown that dissolved uranium — ingested in food or water, for example — is liable to attach to DNA strands within cells, because uranium binds strongly to DNA phosphate.

"Photoelectrons from uranium are therefore likely to be emitted precisely where they will cause most damage to genetic material," Busby told the magazine.

Their computer modeling results are described in a peer-reviewed paper to be published in September 2008 by the IPNSS in a book called *Loads and Fate of Fertilizer Derived Uranium*.

New Scientist noted additionally that test-tube and animal studies have found that DU may increase the risk of cancer, according to a review of the scientific literature published by the U.S. National Research Council. ("Review of Toxicologic and Radiologic Risks to Military Personnel from Exposure to Depleted Uranium During and After Combat," by the U.S. National Research Council, May 2008)

The review cites a wide range of studies, including one from 2007 by John Wise and colleagues at the University of Southern Maine in Portland which showed that DU dust induced mutations in the chromosomes of human lung cells (*Chemical Research in Toxicology*, Vol. 20, p. 815).

1991) is an effective way to study battlefield exposures that took place between February and May 1991 in Iraq and Kuwait.

Although the NAS suggested nothing about studying the incidence of birth defects and developmental problems in Iraq, it recommended additional animal studies of the reproductive and developmental toxicity of DU.

Dan Fahey contributed research for this article.

UN Members Submit Tepid DU Warnings to Sec. Gen., Urge Study

A resolution adopted by the UN General Assembly last December 5, regarding "Effects of the use of armaments and ammunitions containing depleted uranium," asked member states to submit their views on the use of DU weapons to the Secretary General. The Secretary will then report back to the General Assembly with summary recommendations. A few countries have already replied, albeit with lukewarm precautionary letters. A sample of the submissions follows:

Japan "... submits its views to the Secretary-General on the effects ... Japan has neither owned nor used armaments and ammunitions containing depleted uranium. Japan recognizes that despite the studies conducted by relevant international organizations on the effects of use of armaments and ammunitions containing depleted uranium on human health and the environment, at present no internationally definitive conclusion has been drawn.... Japan appreciates all studies and activities conducted by international organizations, including the World Health Organization, the International Atomic Energy Agency and the United Nations Environment Program, related to ammunitions containing depleted uranium. Japan would like ... international organizations to conduct successive on-site studies and further information gathering, and to provide their views on the effects that the use of depleted uranium munitions may/can cause on the human body as well as the environment."

Belgium on May 11, 2007 "...prohibited arms with depleted uranium. Belgian lawmakers arrived at a political estimation which took account of the fact that there is no scientific consensus on the effects of DU and determined at the same time the need for the application of the Precautionary Principle which requires an attitude of caution until there are scientific certainties. ... Belgium will closely follow all new developments on the scientific analyses with regard to the dangers resulting from the use of ammunitions systems with DU..."

Finland "...shares the concern raised at the General Assembly of the potential risks related to the use of depleted uranium in armaments and ammunitions. The exposure of Finnish peacekeepers to depleted uranium has been scientifically examined. Analyses of samples were taken from troops serving in Kosovo in the years 2000 – 2001. No indication of abnormal exposure was found. The findings were published in 2001... Finland greatly values international efforts to discuss the potential risks of the use of depleted uranium in armaments and ammunitions."

The Netherlands "Recognizes the need for additional research on the effects of the use of armaments and ammunitions containing depleted uranium ... it is not impossible that Dutch service personnel may operate in areas in which munitions containing depleted uranium are being or have been used by allies. However, the resolution's reference to the 'potential' harmful effects of the use of DU munitions on human health and the environment cannot so far be substantiated by scientific studies..."

New Law Book on Combat Use of DU Urges Militaries to Approach With Caution

Depleted Uranium Weapons and International Law: A Precautionary Approach, edited by Avril McDonald, Jann K. Kleffner & Brigit C.A. Toebes, Asser Press, UK, 2008, 340 pages.

This study provides an in-depth analysis of the legal status of the use of depleted uranium (DU) ammunition and armor. The military use of DU is surrounded by controversy, mainly regarding health and environmental hazards of its dispersal. The debate about DU has been highly polarized, with proponents of the munitions claiming its use carries no serious risk while critics suggest that exposures have lead to severe consequences including Gulf-War syndrome, birth abnormalities, cancers and leukemia. Rather than settling these controversies, the book takes as a starting point a precautionary approach in light of the considerable scientific uncertainties. The study examines various principles and rules of international law which could be invoked in view of health and environmental concerns.



"All right, you're free to go. We're in this for the sport--catch and release only."

Church Authorities Renew Moral Critique of the Bomb

The Catholic Bishops of New Mexico have questions for the Department of Energy regarding the agency's plans to produce new nuclear weapons at the Los Alamos National Laboratory (LANL) near Santa Fe. The Bishops aren't the only ones in the religious community to recently denounce the nuclear arsenal. The American Friends Service Committee (Quakers) have initiated a petition that gained support and signatures from 79 religious organizations opposed to DOE's plans for a revitalized nuclear bomb factory, including Catholic, Jewish, Muslim and Protestant congregations. The wave of moral indignation has filtered into smaller churches, some of which have joined letter writing campaigns and have invited survivors of Hiroshima or Nagasaki to speak.

U.S. Catholic Bishops have decried nuclear weapons for nearly three decades. In 1983, 276 Bishops openly debated the U.S. "first-strike" posture of threatening nuclear attack, the morality of nuclear weapons and the maintenance of "deterrence" which they grudgingly endorsed as a "strictly conditional defense of deterrence." The pastoral letter was sent to 51 million U.S. parishioners. A Vatican panel with the endorsement of Pope John Paul II, declared in September 1982, that prevention of nuclear war "is the greatest moral issue humanity has ever faced and there is no time to lose."

On June 25, 1988, U.S. Bishops reversed themselves and withdrew the conditional approval. They declared that the intention of using nuclear weapons to retaliate against an enemy attack was immoral. Sixteen months later, the life-long nuclear weapons proponent and Reagan Administration hawk Paul Nitze wrote in an Oct. 28, 1999, *New York Times* op/ed, "I can think of no circumstances under which it would be wise for the United States to use nuclear weapons, even in retaliation for their prior use against us..."

A May 1998 paper by U.S. Bishops who are part of the peace group Pax Christi also emphatically denounced nuclear weapons and the so-called Stockpile (H-bomb) Stewardship Program. In reference to the fall of the Soviet Union and the end of the Cold War, the Bishops wrote, "... the Cold War weapons amassed throughout that struggle have survived the struggle itself and are today in search of new justifications and new missions to fulfill."

On April 9 this year, Archbishop Michael Sheehan of Santa Fe and Bishop Richard Ramirez of Las Cruces, New Mexico weighed in against nuclear weapons projects still seeking funds in Congress. They signed their names on a list of questions sent to the DOE regarding its "Complex Transformation," scheme, its latest attempt to re-invent a mission for itself, this time as an H-bomb builder. Some of the questions raised were:

* Will the transformation ... of the LANL into a weapons manufacturing facility be a violation of our current treaties with other nations?

* Will the LANL transformation to create 80 new warheads per year ... hasten an international arms race?

* Essential ... handling and disposal of high-level radioactive [waste] material could be ... assigned a low priority... How will the DOE assure that essential non-weapons needs are addressed?

* Is the complex transformation based on a nuclear posture review conducted before [the attacks of] 9-11 [-2001] or after?

* Decommissioning and decontamination funds will be enormous. These costs are not fully described in the Environmental Impact Statement. What is the funding source?

The current Pope Benedict said in his 2008 World Day of Peace message, "At a time when the process of nuclear nonproliferation is at a stand-still, I feel bound to entreat those in authority to resume with greater determination negotiations for a progressive and mutually agreed dismantling of existing nuclear weapons. In renewing this appeal, I know I am echoing the desire of all those concerned for the future of humanity."

In the meantime, the Pope, whose plane landed at Andrews Air Force Base, home to the nuclear war code system known as the "football," rather than a civilian airport, visited the world's principle nuclear threat-exporting state in April. He was greeted there by George and Laura Bush. Next time around, perhaps the Pope will shun U.S. military bases and keep his entreaty for abolition uncompromised.