USE OF RADIOACTIVE MATERIALS IN MILITARY WEAPONS: DEPLETED URANIUM

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First, I would like to tell you how I got involved in this issue. In late 1985 on my way to participate in a professional golf tournament in Phoenix, Arizona, a truck hit my car and my back was injured. During my recovery, I went back to my hometown, to Socorro, New Mexico, where I had grown up. There I found that tremendous explosions were taking place less than three kilometers from my parents' home. After each explosion, a black cloud of smoke would rise and come over our home and over the small town of Socorro.

I began to research what was in that black cloud of smoke. It turned out to be open air testing of depleted uranium weapons. And that discovery is what brings me before you today.

I was invited to come to Iraq by a group called "The Japanese Citizens' Peace and Research Delegation to Iraq." Like me, the members of this team have had personal experience with radiation: most of them are from Hiroshima. They are the children and grandchildren of the people who experienced a nuclear bomb dropped on them. The team's mission here has been to contribute to preventing another war from happening by joining the global anti-war campaign and by carrying out on-site research on the damage brought about by the radioactive and poisonous DU weapons used during the Gulf War and which continue to be used until this day. The team also wants to extend what little help we can to the Iraqi people and the children suffering from the Gulf War and the long economic sanctions.

The organization to which I belong is called the International Depleted Uranium
Study Team: IDUST. The International Depleted Uranium Study Team is a non-governmental organization dedicated to stopping the use of radioactive materials in military weapons, particularly depleted uranium. Today I will address some of the historical, political, legal and health issues concerning the use of depleted uranium in weaponry.

There is great urgency as each new battle erupts. The possibility that DU will again be used is real. According to recent statements of the Ministry of Defense, United Kingdom, DU weapons will be used again if it is considered necessary. If the past is any guide, local civilian populations are unlikely to be warned when DU weapons are used even if DU contaminates their food or water supplies. Prior to the Gulf War, the US army was aware of the potential for DU contamination to cause health problems among civilian populations. Yet the Department of Defense did nothing to warn the inhabitants of Kuwait, Saudi Arabia and Iraq about DU contamination of their air, soil and water. Rather, US army reports expressed more concern about public outcry and future restrictions on the use of DU weapons than about contaminating lands at home and abroad and poisoning soldiers and civilians. Is this the case in Afghanistan? Up to now there have been no official reports confirming the use of DU in Afghanistan. And is there yet more DU in the future for Iraq?

What is depleted uranium? It is natural uranium that has had the fissionable isotope U235 partially removed during the enrichment process for use in nuclear weapons and as fuel for nuclear reactors. However, 250,000 metric tons of this so-called depleted uranium is actually waste left over from the reprocessing of irradiated reactor fuel, leaving it salted with fission products such as plutonium, americium, neptunium and U-236. Depleted uranium and this waste from reactor fuel come from two entirely different waste streams with very different degrees of radioactivity.

What weapons contain depleted uranium? DU is being used in armor-piercing bullets, casing on bombs, shielding on Today tanks, counterweights and penetrators on missiles, cluster bombs, anti-personnel mines, and other weapons sometimes referred to as "dirty bombs." The US government and others maintain that the only purpose for using DU is to pierce armor. However, DU has a dual use because it is in fact being used to poison personnel. Already in 1978 an author noted in the periodical Strategic Review that today's most effective conventional anti-tankweapons are designed to penetrate tank armor and produce radiation effects which will kill or disable the tank crews.

How much DU was used in the Gulf War? A 1991 report in The Independent said of the rounds fired by tanks and aircraft: "The best estimates were that the US tanks fired 5000 rounds, US aircraft many thousands of rounds, and British tanks 'a small number.' The tank ammunition alone would contain more than 50,000 pounds of DU, enough radioactive material, the International Committee of Radiological Protection estimates, to cause 500,000 potential deaths, if it were inhaled." How much was used in other DU-containing weapons is not known outside the Pentagon. The LAKA Foundation estimates that the total amount of DU used in Iraq exceeds 800 tons.

Where have these weapons been used in combat? Some of these weapons have been used in Iraq, Bosnia, Kuwait, Kosovo and several other countries. These weapons have also been tested at domestic firing ranges and bombing sites in many countries including the United States, United Kingdom, Japan and Puerto Rico to name a few. Every time DU has been used it has left contamination and human suffering. Hundred of tons of ammunition have been used in combat and testing -- even as reported by those using the DU. And we certainly do not know all the weapons or parts of weapons where DU is now being routinely used.

Is there any evidence that these radiation weapons have caused negative health effects to soldiers and civilians? In the United States over 250,000 returning Gulf War veterans have reported to Veterans' Hospitals asking for help in what has become known as the Gulf War Syndrome. Over 8000 of these veterans have died. 206,000 of the 697,000 veterans of the Gulf War have filed claims for veterans' benefits based on service-related injuries and illnesses. Many NATO troops stationed in Kosovo and Bosnia have become ill and dozens have died in what is being called the Balkan Syndrome. In Iraq over 1.5 million soldiers and civilians have died of unnatural causes since the Gulf War, one-third of them children under the age of 5. Leukemia, cancer, birth defects and rare diseases have increased at an alarming rate in this country.

Studies conducted by Iraqi scientists have found higher levels than that permitted by international standards for U-238 and its products in drinking water of various city water supplies and in the Tigris River. Vegetables, fish and meat in southern Iraq are showing levels of radiation contamination as well.

In the US, officials have conducted studies that clearly show that DU enters the food chain and contaminates water. DU has a half-life of 4.5 billion years and will continue to harm all forms of life in contaminated areas. A 1995 article in the International Journal of Occupational Medicine and Toxicology included this information on DU health hazards in the Gulf War: "Depleted uranium particles can be inhaled easily in smoke resulting from the impact of armor-piercing projectiles on hard targets and the aerosolization of uranium into small particles. If even one small particle (less than five microns in diameter, 5-millionths of a meter, the size of cigarette ash) is trapped in the lungs, surrounding tissues can be exposed up to 272 times the maximum permitted dose for workers in the radiation industry."

What indications do we have that these illnesses are related to DU? Some understanding of how DU emissions may harm human health can be drawn from existing knowledge of how radiation in general affects human health. Dr. Marvin Resnikoff, a noted American particle physicist, writes: "When inhaled, uranium increases the probability of lung cancer. When ingested, uranium concentrates in the bone. Within the bone, it increases the probability of bone cancer, or, in bone marrow, leukemia. Uranium also resides in the soft tissue, including the gonads, increasing the probability of genetic health effects, including birth defects and spontaneous abortions."

How did it all begin? Albert Speer, author of Inside the Third Reich and former Nazi Munitions Minister, makes this statement concerning the shortage of ammunition material in Nazi Germany and the subsequent use of their uranium stock as solid-core ammunition: "In the summer of 1943, wolframite imports from Portugal were cut off, which created a critical situation for the production of solid-core ammunition. I thereupon ordered the use of uranium cores for this type of ammunition. My release of our uranium stocks of about 1200 metric tons showed that we no longer had any thoughts of producing atomic bombs."

So for the first time in history, solid-core ammunition made of radioactive material was used in military combat.

Also in 1943, the US War Department proposed research into the "Use of Radioactive Material as a Military Weapon" to General L.R. Grove who headed the Manhattan Project in Los Alamos, New Mexico. One of the possible military uses of radioactive materials against enemy personnel would be as a gas warfare instrument. The material would be ground into particles of microscopic size and would be distributed in the form of dust or smoke by ground-fired projectiles, land vehicles, airplanes, or aerial bombs. In this form, it would be inhaled by personnel. It could also be dissolved in liquid.

Secret human radiation experiments begin in 1944 to understand better the effects of radiation weapons;

experiments involving intentional environmental releases of radiation were designed to test human health effects of ionizing radiation. The experiments continued until 1974. The US government deliberately dropped radioactive materials from planes or released it on the ground in New Mexico and other states.

In 1947 a secret memo from the US Atomic Energy Commission had this self-incriminating statement about medical experiments on human subjects: "It is desired that no document be released which refers to experiments with humans and might have adverse affects on public opinion or result in legal suits. Documents covering such work field should be classified 'secret.'"

In the 1950s weapons containing depleted uranium began to be tested and developed on firing ranges and bombing sites across the US by the military and their civilian defense contractors. As I said earlier, one such test site is Socorro, New Mexico, home to the New Mexico Institute of Mining and Technology, a publicly supported state university, where DU open-air testing began in 1972. The DU work is carried out by one of the school's divisions, the Energetic Materials Research and Technology Center (EMRTC), formerly known as the Terminal Effects Research and Analysis Group (TERA). This test site is at the top of Socorro Mountain, a spot where water wells supply drinking water for the city of Socorro. Socorro's 8000-member community is less than two miles downgrade and downwind from the test site. An unusual number of hydrocephalus cases appeared during the l980s in Socorro. Three of New Mexico's 19 cases of hydrocephalus recorded between 1984 and 1988 occurred in tiny Socorro.

The US is not alone in making DU weapons. The United Kingdom, Russia, Turkey, Saudi Arabia, Pakistan, Thailand, Israel, France and others followed the US lead in developing DU-containing weapon systems for their inventories and selling them in the world's arms market. Legislation in the US made it permissible to sell the M-833 or comparable anti-tank shells containing DU penetrators to these NATO countries: Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Turkey and the United Kingdom. Major non-NATO allies included were Australia, Egypt, Israel, Japan, Korea and Taiwan.

The United Nations Commission on Human Rights in its 1996 session condemned weaponry containing depleted uranium as a weapon of mass destruction and indiscriminate use, both against members of the armed forces and against civilian populations. The Commission spoke of these weapons not only as resulting in death, misery and disability, but also they were concerned about the long-term consequences on human life and the environment.

In a 1996 advisory opinion, the International Court of Justice affirmed that under Humanitarian Law, States must "...never use weapons that are incapable of distinguishing between civilian and military targets."

The use of weapons containing depleted uranium violates Article 147 of the Fourth Geneva Convention on willful killing, and Article 85 of Additional Protocol 1, known as the Hague Regulation, making the civilian population objects of the attack in the knowledge that such attack will cause loss of life and injury.

The UN Sub-Commission on Prevention of Discrimination and Protection of Minorities is preparing a report on weapons containing DU. This is due at the August 2003 session with Justice Sik Yuen from Mauritius as Special Rapporteur. This report was originally to be completed in 1998 but the Rapparteur assigned to present the report was absent. The report was again scheduled for presentation in 1999, 2000, 2001 and 2002 and in each case the Rapparteur assigned the responsibility of presenting the report was either absent or not prepared. Now it is scheduled for 2003. One wonders.

Can battlefields and test ranges by cleaned? To clean up contaminated soil would require the removal of up to 12 inches of the top soil in Iraq and Kuwait over hundreds of square miles contaminated with DU. This could easily cost tens of billions of dollars to clean up. To clean the water and air would be impossible.

Last summer the New York Times reported a DU clean-up effort in a tiny cove in Montenegro where the US fired 88 rounds of DU bullets on the last day of the Kosovo war (no one knows why). The Montenegro government, without any help coming from the US or NATO, has closed these several acres and is trying to decontaminate the area. Wearing protective gear, several workers are sweeping the area for radioactivity, removing and packaging for storage huge amounts of contaminated soil. The effort will take years. All this because of 88 rounds of DU bullets, a trifle compared to the 600,000 pounds of DU in Iraq and Kuwait.

In the state of Indiana, 500 acres at the recently closed Jefferson Proving Ground, where an estimated 152,000 pounds of DU has been used in tests, will cost $4 to $5 billion to clean up.

How is it possible that these illegal weapons can be sold in the world's arms market? The U.S. International Security and Development Cooperative Act of 1980 states that DU may be sold upon a finding that an export of uranium depleted in the isotope U-235 is incorporated in defense articles or commodities solely to take advantage of the high density or pyrophoric characteristics unrelated to its radioactivity. Such exports shall be exempt from the provisions of the Atomic Energy Act of 1954 and from the Nuclear Non-proliferation Act of 1978. The US is subverting these laws by simply saying that they are not using the uranium for its radiation effects, which are poisonous. But DU is a dual use weapon. It is meant to poison human beings through inhalation and ingestion, causing illness and, in some cases, a lingering death.

DU spiked with plutonium and other fission products. Recent revelations about radioactivity of DU are disturbing. Researchers at the Swiss Federal Institute of Technology have discovered that DU munitions used in Kosovo were contaminated with Uranium 236, an isotope of uranium not found in natural uranium ore. Numerous medical scientists have found traces of U-236 in the urine of Gulf War veterans even ten years after the conflict. This means that some DU cannot be naturally occurring uranium with the fissionable isotope U-235 removed from it, as the US government had claimed until recently. U-236 is created only inside nuclear reactors, a product of the fission process.

There is no other source. Some of the so-called (but wrongly called) DU being used has come from reprocessed reactor fuel that also contains plutonium. The Pentagon, NATO, and the British Ministry of Defense have always downplayed the danger of DU, saying it was "less radioactive than uranium ore." Plutonium is 200,000 times more radioactive that U-238 which makes up 99.8% of DU.

The facts are straightforward. DU is an anti-personnel weapon that is designed to cause superfluous injury and unnecessary suffering. If we do not act soon to ban the use of DU in weapons, humans yet unborn are going to pay a fearsome price. Radiation from DU will affect the human gene pool, bequeathing to our descendents countless inherited defects.

In conclusion, I humbly request that the World Health Organization begin health and environmental studies in Iraq, Kuwait, Saudi Arabia and the Balkans region as soon as possible.

Thank you.