February 14, 2008
To the Standing Committee on Defense
House of Representatives
The Hague, The Netherlands

Re the Expert meeting on depleted uranium, Ref. 08-DEF-B-015
References for Briefing by John LaForge
Nukewatch, USA

References:

Other U.S. government agencies have also issued warnings.

In 1984, the Federal Aviation Administration warned its investigators, ñIf particles are inhaled or ingested, they can be chemically toxic and cause a significant and long-lasting irradiation of internal tissue.ò Still in effect today, this 17-year-old advisory bulletin from the F.A.A., puts the lie to industry, Pentagon, UK and NATO denials of health risks associated with DU exposure. (*Avoiding or Minimizing Encounters With Aircraft Equipped With Depleted Uranium Balance Weights During Accident Investigations,***ò** *F.A.A. Advisory Circular 20-123, by M.C. Beard, December 20, 1984*; <http://www.copvcia.com/du.htm>)
The U.S. Department of Laborôs Occupational Safety and Health Administration says DU exposure causes: ñIncreased risk of lung carcinoma and chemical toxicity to kidney.ò (*Health Hazards Data, the Materials Safety Data Sheet from the U.S. Department of Labor/OSHA.*)

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Science News
<http://www.sciencedaily.com/releases/2007/10/071024083640.htm >

Contamination from Depleted Uranium Found In Urine 20 Years Later

Researchers have found traces of DU in urine more than 20 years later, in those cases where exposure to DU aerosol has been unambiguous and in sufficient quantity.

ScienceDaily (Oct. 24, 2007) -- Inhaled depleted uranium (DU) oxide aerosols are recognized as a distinct human health hazard and DU has been suggested to be responsible in part for illness in both military and civilian populations that may have been exposed.

University of Leicester geologist, Professor Randall R Parrish will be giving this message to the 119th annual meeting of the Geological Society of America at the Colorado Convention Center in Philadelphia on 28 October 2007.

In his talk entitled: ôDepleted uranium (DU): its environmental dispersion and human uptakeô he will outline his research findings on a new method of tracing DU.

The issue has been the subject of investigations by the Royal Society (UK), the National Academy of Science (US) and other bodies, but studies of individuals who have been clearly exposed to environmental contamination are lacking.

Professor Parrish commented: ñOur objective was to develop a high sensitivity method of EU detection in urine, using MC-ICP mass spectrometry that would be capable of detecting an individualôs exposure to DU up to 20 years after the event.

ñWe developed this method and applied it to individuals, either known or likely to have had a DU aerosol inhalation exposure, and to a large voluntary cohort of 1991 Gulf conflict veterans to assess DU exposure screening reliability and accumulate data on exposure.ò

Using his method, Professor Parrish and his research team have found traces of DU in urine more than 20 years later, in those cases where exposure to DU aerosol has been unambiguous and in sufficient quantity. This is true even when the U concentration is at the low end of the normal range.

Most such samples would return a negative screening result with other, less sensitive, methods.

Professor Parrish added: ñOur method has been used to show that it is capable of resolving legal cases based on a claim of DU exposure. Also it shows that the occurrence of DU in 1991 Gulf Conflict veterans is likely to be uncommon to rare, but if a significant inhalation exposure occurred then it can be detected in urine for decades to come.

ñIt offers a way to resolve debates about DU and health and provide perspective on the issue. Resolving the potential implications of DU to health in contaminated populations is best done by properly testing exposed cohorts. The cohorts in need of study are those living in DU-contaminated areas of Iraq, or those living in the vicinity of DU munitions factories with large DU contamination footprints.ò

Adapted from materials provided by University of Leicester.

Researchers have found traces of DU in urine more than 20 years later, in those cases where exposure to DU aerosol has been unambiguous and in sufficient quantity.

NOTES ON DEPLETED URANIUM MUNITIONS

According to the General Accounting Office, the auditing and investigative agency of Congress: ñThe relationship between radiation dosage and health risks at low levels of exposure is not clearly understood, and compliance with the Nuclear Regulatory Commission limits does not eliminate the risks of future health problems.ò

' Frank Aukofer, ñPentagon warns troops about uranium,ò *Milwaukee Journal Sentinel*, Jan. 27, 1993

Jan. 5, 2001:
Reuters reports that UNEP announced it found radioactivity at eight of 11 sites tested in Kosovo that were struck with DU ammunition by NATO.

Reuters says ñU.S. attack jets fired some 31,000 rounds of depleted uranium ammunition against Serbian targets during NATOôs 1999 campaign to drive the Yugoslav army out of Kosovo. Some 10,000 rounds were also fired in neighboring Bosnia in 1994-5.ò

The 11 sites were among 112 in Kosovo hit by DU according to a NATO map. The UNEP ñconsiders that the 11 sites tested are representative of all 112 and wants them all cordoned off,ò the German daily *TAZ* reported in Berlin. TAZ reported that the eight sites were ñconsiderably contaminated.ò

Stephane Dujarric, speaking for UNEP, said ñSpecial attention is also being paid to the risks that uranium toxicity might pose to the ground water around sites.ò

A U.N. report in May 2000 warned that much of Kosovoôs water could be so contaminated as to be unfit to drink, and that a clean-up of the province could cost billions of dollars. It warned U.N. staff not to approach any target that might have been hit by a depleted uranium weapon.

Uranium dust as well as unexploded munitions had been discovered, TAZ said in an advance release of a story due for publication on Saturday. TAZ said it had obtained a copy of an interim UNEP report dated December 29, 2000.

— Irwin Arieff, ñUN finds radioactivity at NATO bomb sites in Kosovo,ò *Reuters*, Jan. 5, 2001

Feb. 18, 2001
Pekka Haavisto, head of the UNEPôs investigation of DU warned of the necessity to ñclosely follow the state of healthò of those exposed to the ammunition in the Balkans.

Germany, Italy, Norway and the European Parliament have called for a moratorium on using the ammunition. Dr. Davic McClain, the militaryôs depleted uranium researcher, told a presidential committee investigating Gulf War illnesses in 1999 that ñstrong evidence exists to support [a] detailed study of potential DU carcinogenicity.ò

A separate Army-funded study conducted by the Lovelace Respiratory Research institute in Albuquerque, New Mexico, found that DU caused cancer when implanted in laboratory animals.

A July 1990 report from the U.S. Army Armament, Munitions and Chemical Command predicted that, ñFollowing combat, the condition of the battlefield and the long-term health risks to natives and combat veterans may become issues in the acceptability of the continued use of DU [ammunition] for military applications.ò The report added that DU is ñlinked to cancer when exposures are internal.ò

In January 1998, the Pentagonôs Office of the Special Assistant for Gulf War Illnesses made a long-overdue admission: ñCombat troops or those carrying out support functions generally did not know that DU contaminated equipment such as enemy vehicles struck by DU rounds required special handling. The failure to properly disseminate such information to troops at all the levels may have resulted in thousands of unnecessary exposures.ò

Several of the contaminated veterans ñcontinued to excrete depleted uranium in their semen and urine six years after the war.ò

— Dan Fahey, ñDepleted Uranium: Americaôs Military óGiftò That Keeps on Giving,ò *Los Angeles Times*, Feb. 18, 2001

PROF. HARE SHARMA, of the University of Waterloo, Ontario, found high levels of DU in urine of ex-Gulf War servicemen ten years after the exposure.

Dr. Steve Wing, in the journal *New Solutions*, June 2000 (ñThe Science and Politics of Radiation studiesò) says interpretation of health data for nuclear workers depends on ñan increasingly outdated Emphasisò on studies of A-bomb survivors, although studies over two decades suggest that relying on bomb survivor studies may mean that cancer risks among exposed populations are seriously underestimated.ò

— Contact Dr. STEVE WING: 919-966-7416.

— *Radioactive Times*, journal of the Low-Level Radiation Campaign, June 2000, Vol. 4, No. 1, p. 6-7

A 1996 survey of U.S. Gulf War veterans in the Mississippi own of McGann showed that of 267 families questioned, 67 percent of children conceived after their fathers returned from the Gulf had rare birth deformities.

ñDepleted uranium is a radioactive waste and, as such, should be deposited in a licensed repository,ò according to a June 1995 statement by the U.S. Army Environmental Policy Institute.

Britainôs Atomic Energy Authority (UNAEA) was so alarmed to learn of the UKôs 1991 use of DU that it sent a report to the MOD in April 1991 [leaked to the Independent in Nov. 1991], warning of a health and environmental catastrophe. AEA estimated that if 50 tons of DU dust were left over from the impact of DU weapons, there could be in excess of ñ500,000 potential deathsò from cancer in the region within 10 years.

August 15, 1991 letter to Leonard Dietz from the Office of the Director of Defense Research and Engineering at the Department of Defense in Washington, DC. ñYou posed the question of the probability that lung cancer could develop after the inhalation of depleted uranium. As you are no doubt well aware, since the material is a source of ionizing radiation, the potential for carcinogicity is real.ò

' Felicity Arbuthnot, ñThe Lie of the millennium?ò *Al-Ahram Weekly* On-line, March 15-21, 2001

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The Pentagonôs Armed Forces Radiobiology Research Institute (AFRRI) in Bethesda, Maryland, has discovered that DU leads to the occurrence of oncogenes, tumorous growths believed to be the precursors to cancerous growth in cells, and that it kills suppressor genes. They also found that embedded DU, unlike most metals, dissolves and is spread through the body, depositing itself in organs like the spleen and the brain; and that a pregnant female rat will pass depleted uranium along to a developing fetus.ò Dr. David Livengood, chairman of the department of cellular radiobiology at AFRRI, said, ñWe are particularly surprised at how quickly we found oncogenes.ò

The Armyôs AMCCOM (radiological) task group noted that ñlong term effects of low doses [of D.U.] have been implicated in cancer ... there is no dose so low that the probability of effect is zero.ò

The U.S. has sold DU weapons to Thailand, Taiwan, Bahrain, Israel, Saudi Arabia, Korea, Turkey and Kuwait. Britain and France have purchased large quantities of raw DU for use in their weapons programs, and the Russians have developed DU munitions of their own.

The UN Sub commission on Prevention of Discrimination and Protection of Minorities passed a resolution[s] that includes language calling for a prohibition on the use of depleted uranium; only the U.S. representative voted against it.

' Bill Mesler, ñPentagon Poison: The Great Radioactive Ammo Cover-up,ò *The Nation*, May 26, 1997

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Dr. ERIK HOSKINS, a public health specialist who surveyed Iraq as a member of a Harvard team, wrote an Op-Ed, ñMaking the Desert Glow, in *The New York Times*, January 1, 1993, warning that DU may be causing health problems in Iraqi children.

A few weeks later a harsh letter to the editor accused Hiskins of ñhyperboleò that reaches the ñbizarre conclusion that the environmental aftermath of the Persian Gulf War is not Iraqôs fault, but ours!ò The writer Russell Seitz, was Idôd only as an associate with the ñOlin Institute for Strategic Studies at Harvard. It turns out the Olin Institute was established by the J. M. Olin Foundation, of the Olin Corporation, which in 1993 was the nationôs only maker of DU anti-tank rounds.

— Bill Besler, ñThe Pentagonôs Radioactive Bullet,ò *The Nation*, Oct. 21, 1996.

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ñThe U.S. military still must protect its troops from radiation. Exposure could occur during the use of radioactive materials in conventional explosives, or nuclear plant accidents where the military would be called in to help. These exposures could increase the risk of leukemia and certain cancers later in life.

ñThe [NASô] Institute of Medicine has examined a 1996 directive that NATO issued at the time troops went to Bosnia. The report provides the Army with guidance ... on the health of exposed soldiers.

ñCommanders should weigh radiation-related risks against potential risks from alternative actions.

ñThe DOD should provide training to all soldiers and inform them of actual or suspected radiation exposure, the report says.

ñDOD should implement a system to measure internal as well as external radiation doses of all soldiers.ò

— The National Academy of Sciences, ñRadiation Threats in Post-Cold War Era Bring New Strategy of Protecting Troops,ò May 6, 1999

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The DU controversy exploded in Europe early in 2001 after Italy, Belgium, Spain, Portugal and the Netherlands reported a spate of cancer cases among soldiers who took part in peace-keeping operations in Bosnia and Kosovo.

RAI News 24 (Italy) produced evidence showing that Italy possessed DU munitions from 1985 on, and that these weapons were used by Italian peacekeeping forces serving in Somalia in 1992-94 and were even used on some Italian firing ranges up until 2001.

— *Campaign Against Depleted Uranium* (CADU) *News* No. 11, Summer 2002

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WHO PRODUCES DU DEVICES?

CAROLINA METALS, INC [CMI] a wholly-owned subsidiary of Nuclear Metals, Inc., is the only commercial conversion facility of uranium hexafluoride (UF6) to DU metal in North America.

The DU metal produced at CMI is used by NMI for processing into a variety of products. NMI is one of only two domestic DU producers...

— Carolina Metals, Inc. Hwy 80, Barnwell, SC 29812 (803) 259-3622

— Nuclear Metals, Inc., 2229 Main St., Concord, MA 01742 (508) 369-4045; <sales@nucmet.com>

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ñIncreased risk of lung carcinoma and chemical toxicity to kidney. Hazardous decomposition products ... Decay products of U-238, U-235, and U-234 are radioactive also.ò

— ñHealth Hazards Data,ò in the Materials Safety Data Sheet, U.S. Department of Labor/OSHA

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On July 28, 2000, Iraqôs UN ambassador Said Hassan said, ñThe use of depleted uranium has caused pollution of the environment, soil, water and plant life as is at levels 10 times higher than normal. Repairing that damage ... would cost around 375 billion dollars,ò he said.

— ñIraq says depleted uranium clean-up will cost $375 billion,ò *Agence France Presse*, July 28, 2000

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August 23, 2001, The WHO will send a team of physicians to Iraq Monday to determine whether DU shells used by U.S. troops have caused an increase in Iraqi cancer rates. The 8-member team hopes to lay the groundwork for the lst major international study since the Gulf War, according to WHO spokesman GREGORY HARTL.

HARTL said the WHO team would seek to establish a national cancer registry to obtain accurate statistics on cancer victims.

— *The Washington Post*, Aug. 24, 2001, p. A20

ñD.U. presents a possible hazard [because] it is a heavy metal that can be toxic if ingested or inhaled. [It] becomes a hazard only when burned either by fire or with the heat of impact in a target areaò

— Army memo from the Armament, Munitions and Chemical Command, May 24, 1991

November 1994 *Los Angeles Times* report notes that one environmental pediatrician, comparing Gulf War babies with others, found a 30% rate of birth defects among the veteransô children ' ñprobably tenfold of what is in the normal population.ò

— *Milwaukee Journal*, Nov. 15, 1994, p. A3

By May 1995, about 63,000 veterans of the 1991 Gulf War reported persistent illnesses ' of the 690,000 troops who went to the war. [The Hartford Courant, May 29, 1995]

By Dec. 2, 1998, 100,000 of about 750,000 troops who served in the Gulf have complained of some sort of health problems. (St Paul Pioneer, Dec. 3, 1998, p. A11) Debilitating illnesses plague about 100,000 of the 700,000 soldiers who served in the 1991 Persian Gulf War.

— Kathleen Sullivan, ñGulf GIs Exposed to Toxics: Pentagon admits veterans not warned of radioactive metal used in ammunition, The *San Francisco Examiner*, January 9, 1998

Kathleen Sullivan, ñNew link to Gulf War ills: Bullets of uranium,ò *San Francisco Examiner*, Aug. 19, 1997 (date in question)

Dr. ROSALIE BERTELL, an epidemiologist [formerly] of Toronto [author of *No Immediate Danger: Prognosis for a Radioactive Earth*, The Womenôs Press, 1985, along with dozens of scientific articles on DU], said ñWhen shoe shells hit tanks and reached temperatures above 500 degrees Celsius [932 degrees Fahrenheit] depleted uranium became an aerosol, and it was highly breathable and could travel great distances from the source.ò

— John Donnelly, ñIraqi cancers offer clues to Gulf War Syndrome, Uranium residue a prime suspect,ò *The Miami Herald*, April 6, 1998

The number of cancer cases and birth defects among Iraqi civilians in the cities of Basra, Amara, Nasiriyeh and Diwaniyeh has grown at least threefold since the 1991 war, according Iraqi doctors and medical records.

From Iraqi hospital records, government cancer registries and battlefield radiation tests:

* The number of childhood leukemia patients is double or triple what it was before the 1991 war.
* An Iraqi government study of 1,625 pregnant women nationwide found the odds of miscarriage were 3.2 times greater if the father had been a Gulf War soldier.

* The per capita rate of all cancers in southern areas was 4.6 times higher and the rate of birth defects was 2.8 times greater than elsewhere in the country
* Measurements of radiation taken from destroyed Iraqi tanks in 1995 ' 4 yrs after the war ' found readings eight times higher than normal background radiation. The tanks had all been hit by DU rounds.

— John Donnelly, ñInsight into Gulf War Syndrome? An increase in cancer rates in southern Iraq may offer clues to the mystery illness,ò *Knight Ridder* Newspapers, March 22, 1998

ñBut in a 1995 report to Congress, the Army Environmental Policy Institute said depleted uranium has the potential to generate ósignificant medical consequencesôif it enters the body.ò

— Kathleen Sullivan, ñGulf War map a clue to vet ills? Pentagon reveals battlefield sites were exposed to depleted uranium ammunition,ò *San Francisco Examiner*, January 25, 1999

ñA soldier inside an army tank armed with uranium bullets will be exposed to as much as 1/10ths of a millirem of gamma radiation every hour, according to Darwin Taras, an Army expert on DU weapons. A FDA radiation authority said that at this millirem dosage tank crews will receive the equivalent of one well-administered chest X-ray every 20 to 30 hours. This dosage is permissible but not desirable ....ò

' Joseph Albright, ñPentagon Will Use Depleted Uranium for Making Armor Piercing Bullets,ò *Atlanta Journal Constitution*, March 12, 1978

On Nov. 17, 1997, at the National Press Club in Washington, the Military Toxics Project released Army training videos which have been withheld from military personnel regarding the health and environmental dangers associated with depleted uranium weaponry.

The training videos, completed in 1995 by the Armyôs Depleted Uranium Project, were obtained from an Army officer who is concerned that active duty soldiers are still not receiving proper training about the use and dangers of depleted uranium munitions. The training videos highlight the dangers of depleted uranium and the need for strict safety measures when coming into contact with contaminated vehicles and personnel injured by uranium fragments.

' *Military and the Environment*, Dec. 1997, p. 3

REPORTED SYMPTOMS OF GULF WAR SYNDROME

The U.S. Army Mobility Equipment, Research & Development Command, March 7, 1979, states:

ñNot only the people in the immediate vicinity (emergency and fire fighting personnel) but also people at distances downwind from the fire are faced with potential over exposure to airborne uranium dust.ò

ñWind-blown particles readily lodge in lung tissue, exposing the host to a growing, toxic dose of alpha radiation and capable of inducing cancer and other deadly illnesses. A single, microscopic particle of DU lodged in the respiratory system is the radiological equivalent of fifty (50) X-rays, and can subject lung tissue to 8,000 times the annual radiation dose permitted by federal regulations for whole-body exposure,ò said Laura Olah, a board member of the Military Toxics Project, U.S.

April 2, 1993, *MLWK JRNL*, Associated Press:
skin rashes, loss of hair, bleeding gums, elevated blood pressure and liver disorders

Jan. 9, 1994, *MLWK JRNL*, Associated Press:

muscle pain, memory loss, birth defects, respiratory problems and certain cancers

Apr. 30, 1994, Minneapolis *Star Tribune*, via *Newsday*:
fatigue, skin rash, muscle and joint pain, headache, loss of memory, shortness of breath, gastrointestinal problems

ñThe [NIH] panel said the veterans were exposed to ... depleted uranium, which was used in munitions and armor.ò It recommended a health survey of 700,000 people who served ... and said ñthere is no single disease or syndrome apparent, but rather multiple illnesses with overlapping symptoms and causes.ò

Oct. 5, 1994, *New York Times*, Anna Quindlen:
persistent headaches, rashes, nausea, chronic fatigue and body aches

Dec. 15, 1994, *MLWK JRNL*, Associated Press:
headache and memory loss, fatigue, sleep disorders, and intestinal and respiratory ailments

ñOf the 697,000 troops who served ... about 6% ' 43,000 ' have come forward to either the DOD or the VA and reported ailments they believe related to their service.ò

March 7, 1995, *MLWK JRNL*, Gannett News Service:
breathing problems, joint and muscle pain persistent headaches, memory loss

April 10, 1995, *MLWK JRNL*, Associated Press:
fatigue, headaches and sleep disturbances

Aug. 15, 1995, *New York Times*, Todd Purdum:
chronic fatigue, memory loss, rashes, respiratory problems, insomnia, gastrointestinal problems, recurrent infections

Jan. 5, 1996, *New York Times*, Philip Hilts:
joint pain, memory loss, fatigue, headache, rash

Aug. 9, 1996, *StarTribune*, Dave Parks, Newhouse News Service:
aching joints, fatigue, memory loss, cancer

Aug. 22, 1996, *New York Times*, Philip Shenon:
chronic gastrointestinal ailments, mysterious rashes and other growths

Nov 12, 1996, *New York Times*, Philip Shenon:
digestive problems, chronic fatigue, rashes, joint aches

Nov 14, 1996, *New York Times*, Gina Kolata:
Asthma, heart disease, fatigue, muscle pain

Dec. 10, 1996, *New York Times*, Philip Shenon:
chronic fatigue, memory loss, sleep disturbances, decrease in sexual drive, chronic digestive problems, joint pain, fatigue

Dec. 11, 1996, *New York Times*, Warren Hoge:
chronic fatigue, asthma, skin disorders, paralysis, reproductive problems, depression

Dec. 12, 1996, *New York Times*, Philip Shenon:
digestive problems, chronic fatigue, abdominal pain, respiratory ailments

Dec. 23, 1996, *St. Paul Pioneer*, Lisa Grace Lednicer:
fatigue, joint aches, short-term memory loss, diarrhea, rashes headaches

July 25, 1997, *New York Times*, Philip Shenon:
ñan estimated 98,900 troops were in the path of a plume of nerve gas unleashed when a battalion of American combat engineers blew up the Kamisiyah ammunition depot in southern Iraq in March 1991, shortly after the war. That is five times the Pentagonôs earlier estimate...

The Pentagon at first suggested that only a few hundred American troops might have been exposed to nerve gas as a result of the demolition. The official estimate later grew to 5,000 and then 20,000, and now nearly 100,000.

[*New York Times*, Dec. 5, 1996, Philip Shenon:
ñMilitary logs for an 8-day period in which thousands of American troops might have been exposed to nerve gas and other Iraqi chemical weapons shortly after the Persian ñGulf War in 1991 appear to have been removed or lost and cannot be located despite an exhaustive search, Pentagon officials said today.

ñThere are several mysterious gaps in the otherwise meticulous combat logs. The gaps include the period in early March 1991 in which American combat engineers blew up the sprawling Kamisiyah ammunition depot in southern Iraq, an event that might have exposed thousands of American troops to nerve gas.

ñ...some pages must have been lost or destroyed. On the days for which logs exist, there are meticulous, almost minute-by-minute typewritten entries, and it would be remarkable that other on (sic) days, the officers in charge of the logs would simply fail to record any entries at all.

ñthe explosions on March 4 and March 10, 1991 é

ñ... the gap in the logs ' from March 4 to March 11 ' was one of several gaps in the chemical logs.

ñThe gaps have only added to the suspicion among veterans that the Pentagon is hiding information that would explain their health problems.ò]

Oct. 9, 1996, *New York Times*, Philip Shenon:
ñDefense Department officials said today (Oct. 8) that a review of combat logs that were compiled for Gen. H. Norman Schwarzkopf, the American commander in the gulf war, showed a gap between March 3 and March 12 in 1991.ò]

Aug. 11, 1997, *New York Times*, Philip Shenon:
Digestive problems, memory loss

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ñNot only the people in the immediate vicinity (emergency and fire fighting personnel) but also people at distances downwind from the fire are faced with potential over exposure to air borne uranium dust.ò — *U.S. Army Mobility Equipment, Research & Development Command, March 7, 1979. Via FOIA response to the National Gulf War Resources Center, Washington, DC, September 22, 1997, Chris Kornkven.*

ñThe radiation dose to critical organs depends upon the amount of time that depleted uranium resides in the organs. When this value is known or estimated, cancer and hereditary risk estimates can be determined.ò

Depleted uranium has the potential to generate ñsignificant medical consequencesò if it enters the body. — *U.S. Army Environmental Policy Institute, June 1995 report to Congress.*

ñWhen soldiers inhale or ingest DU dust, they incur a potential increase in cancer risk. The magnitude of that increase can be quantified (in terms of projected days of life lost) if the DU intake is known (or can be estimated) é Expected physiological effects from exposure to DU dust include possible increased risk of cancer (lung or bone) and kidney damage.ò

— *Col. Robert G. Claypool of the U.S. Army Surgeon Generalôs Office, letter, August 16, 1993.*

In animal studies, embedded DU, unlike most metals, dissolves and spreads throughout the body depositing in organs like the spleen and the brain, and a pregnant female rat will pass DU along to a developing fetus. — *Armed Forces Radiobiology Research Institute (AFRRI) Bethesda, Maryland, as quoted in* The Nation *magazine, May 26, 1997, p.17-18.*

Depleted uranium is a ñlow level alpha radiation emitter, which is linked to cancer when exposures are internal, [and] chemical toxicity causing kidney damage.ò The Army's Armaments, Munitions and Chemical Command radiological task group has said that, ñlong term effects of low doses [of DU] have been implicated in canceré there is no dose so low that the probability of effect is zero.ò — *U.S. Army Armaments, Munitions and Chemical Command (AMCCOM), July 1990, as quoted in* The Nation *magazine, May 26, 1997, p.20.*

Depleted uranium: ñIncreased risk of lung carcinoma and chemical toxicity to kidney. Hazardous decomposition products é Decay products of U-238, U-235, and U-234 are radioactive also.ò — *Health Hazards Data, the Materials Safety Data Sheet from the U.S. Department of Labor/OSHA.*