



Security Council

Distr.
GENERAL

S/23212
12 November 1991
ENGLISH
ORIGINAL: ARABIC

LETTER DATED 12 NOVEMBER 1991 FROM THE PERMANENT
REPRESENTATIVE OF IRAQ TO THE UNITED NATIONS
ADDRESSED TO THE SECRETARY-GENERAL

On instructions from my Government, I have the honour to transmit to you herewith a letter dated 12 November 1991 from Mr. Ahmad Hussein, Minister for Foreign Affairs of the Republic of Iraq. It concerns the articles published by the British weekly newspaper The Independent on Sunday on a report prepared by the United Kingdom Atomic Energy Agency in April 1991 on the use by coalition forces during the Gulf war of anti-tank shells fabricated from depleted uranium, a material that contains chemical toxins and radioactive materials that portend a wide-scale human and environmental disaster.

I should be grateful if you would have this letter and its annex circulated as a document of the Security Council.

(Signed) Abdul Amir A. AL-ANBARI
Ambassador
Permanent Representative

Annex

Letter dated 12 November 1991 from the Minister for Foreign Affairs of Iraq addressed to the Secretary-General

I have the honour to enclose with this letter copies of the articles published by the British weekly newspaper The Independent on Sunday in its issue for Sunday, 10 November 1991, in which is brought to light important information contained in a report prepared by the United Kingdom Atomic Energy Agency (AEA) in April 1991 on the use by coalition forces during the Gulf war of anti-tank shells fabricated from depleted uranium, which contains chemical toxins and radioactive materials that portend a wide-scale human and environmental disaster.

Based on the AEA report, the newspaper states that tens of thousands of armour-piercing rounds manufactured from depleted uranium (U-238) were fired at Iraqi vehicles from American and British aircraft and tanks and that the chemically toxic and radioactive waste that was emitted by the shells and is still being emitted by their remnants poses a long-term threat to the lives of thousands of people.

Referring to the report, the newspaper states that United States tanks fired 5,000 depleted uranium rounds against Iraqi vehicles and that United States aircraft fired tens of thousands of such rounds. The tank ammunition alone would contain more than 50,000 pounds of depleted uranium - enough radioactive material, according to International Commission on Radiological Protection risk estimates, to cause 500,000 deaths. The newspaper says nothing of estimates of the numbers of people whose lives are threatened by the radiation produced by the tens of thousands of such rounds fired by United States aircraft on the cities, villages and townships of Iraq during 42 days of intensive raids, but it must surely be double that number.

This momentous revelation constitutes a new increment in the United States crimes being exposed day after day - the most recent but not the last of which was that of the live burial of thousands of Iraqi soldiers - and it provides additional proof of the violation by the United States of international law, the Charter of the United Nations, The Hague and Geneva Conventions, the Charter of the Nürnberg Tribunal and the laws of armed conflict. It is one of the ironies of fate that the United States should be making use of international law, the Charter of the United Nations and the resolutions of the Security Council as a cloak for the perpetration of its crimes against the people of Iraq and the peoples and environment of the region.

We call upon you to dispatch a team of United Nations experts to study the proportions of this human and environmental disaster and to identify ways to remedy it. Through you, we further call upon all States, political, humanitarian and environmental organizations and international public opinion

to raise their voices in condemnation of this crime and in an appeal for the immediate lifting of the despotic economic embargo imposed on the people of Iraq so that that people may make use of its resources in order to contain the immediate and long-term effects of the United States crimes committed against it.

(Signed) Ahmad HUSSEIN
Minister for Foreign Affairs
of the Republic of Iraq

Baghdad, 12 November 1991

Annex

10 NOVEMBER 1991 THE INDEPENDENT ON SUNDAY

No action taken after secret report warning of health
threat to Kuwaitis and clean-up teams from West

Radioactive waste left in Gulf by allies

By Nick Cohen

THE ALLIED armies left at least 40 tons of depleted uranium on the Gulf war battlefield, a secret report by the United Kingdom Atomic Energy Authority has warned. The chemically toxic and radioactive waste threatens the long-term health of thousands of Kuwaitis, as well as Western clean-up teams. It could also pass into the food chain and water supply.

The uranium was in tens of thousands of armour-piercing rounds fired at Iraqi vehicles from American aircraft and British and US tanks during the conflict.

An AEA appraisal of the threat, which has been seen by *The Independent on Sunday*, calculates that there is easily enough uranium in Kuwait and southern Iraq to cause "500,000 potential deaths".

The authority says that this is a purely theoretical calculation, which is "obviously not realistic". However, it adds that the sheer volume of depleted uranium does "indicate a significant problem".

The report was prepared in April by decommissioning and decontamination specialists working for AEA Technology, the commercial arm of the atomic authority, at the Warfield Establishment, Dersel. The authority offered them to send "a small and dedicated team" to the Gulf "in total confidentiality". It wanted to identify the size of the problem and devise a clean-up plan. The worst concentrations of depleted

uranium could then be removed and potential health hazards minimised. But, after six months, no action has been taken by the British government or by Royal Ordnance, the privatised Ministry of Defence munitions supplier responsible for clearing the British sector of the Gulf war battlefield.

"Discussions are continuing with various parties," a senior AEA official said last week. "They have not gone as quickly as we would have hoped." The authority has so far failed to get the go-ahead despite warning that exposure to depleted uranium "requires sensitive equipment and well-trained operators as it is difficult to locate".

An appeal to political self-interest has also failed. The report said: "A further concern is a political one of leaving significant quantities of uranium around Kuwait. The problem will not go away and should be tackled before it becomes a political problem created by the environmental lobby. It is in both the Kuwait and the UK interest that this is not left to rear its head in years to come."

The report was sent to Royal Ordnance and unspecified British government departments. The Ministry of Defence and Foreign Office denied any knowledge of its contents. A spokesman for Royal Ordnance, which has about 250 sappers clearing mines in the

desert, was unable at the time the company was contacted to say whether the company had received the report, as was a spokesman for the Kuwaiti Ministry of Defence.

The AEA would not say whether the Kuwaitis had been told. At the time the report was produced no decision had been made on whether to inform the Kuwaitis, who have passed responsibility to contractors from the battlefield powers. The issue of whether the Kuwaiti government needed to know was described earlier this year as "delicate".

Delays in acting on the report are understood to be the result of problems in co-ordinating the response between the various clean-up teams in the different allied sectors and the fact that much of the waste lies in Iraqi territory.

The Atomic Energy Authority believes some of the waste could still be properly and safely cleared if a decision can be made soon.

The AEA said in April the best estimates were that US tanks fired 5,000 depleted uranium rounds, US aircraft many tens of thousands of rounds, and British tanks "a small number". The tank ammunition alone would contain more than 50,000lb of depleted uranium - enough radioactive material, on International Committee of Radiological Protection risk estimates, to cause "500,000

potential deaths" if it were inhaled, the report says.

This figure bears no relation to real hazards because for half a million to die, the uranium shells would have to be pulverised into dust and 500,000 people would have to line up in the desert and inhale equal quantities.

The AEA says that the real danger comes from uranium dust produced when depleted uranium shells have hit and burned out Iraqi armoured vehicles. If airborne particles are inhaled they can lead to "unacceptable body burdens".

The depleted uranium will be spread around the battlefield and target vehicles in varying sizes from dust particles to full-size penetrators", the report says. "It would be unwise for people to stay close to large quantities of DU for long periods and this would obviously be of concern to the local population if they collect this heavy metal and keep it."

"There will be specific areas in which many rounds will have been fired where localised contamination of vehicles and the soil may exceed permissible limits and these could be hazardous to both clean-up teams and the local population. Furthermore if DU gets in the food chain or water this will create potential health problems."

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Hazards of war: extracts from the confidential report by the UK Atomic Energy Authority

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Gulf teams not told of risk from uranium

SOLDIERS, mine-clearing experts and reconstruction workers in Kuwait have not received the Atomic Energy Authority report on the health risks posed by depleted uranium ammunition left lying on the Gulf war battlefield by British and American forces.

The amount of uranium used in the Gulf war theatre made it very likely that there would be contaminated areas with large amounts of uranium dust, the authority said in April. Given the conditions in Kuwait, internationally-recognised uranium dosage limits "could easily be exceeded if special arrangements are not made," it predicted.

By Nick Cohen and
Tom Wilkie

Gulf in June said they had never received any instructions from the Royal Ordnance project managers on what to do if they encountered depleted uranium.

Even if safety guidelines have been issued subsequently, the Atomic Energy Authority report points out that untrained workers in a contaminated area may not recognise depleted uranium when they meet it.

The authority's six-month-old proposal, still to be accepted, warned that qualified operators

poisonous, like all heavy metals, and its effect was similar to that of lead, he said.

If there is uranium dust around, it is easily kicked up into the air and then people can breathe it into their lungs. The maximum permissible body burden depends on the chemical form of the uranium: some compounds of uranium are cleared from the body within a matter of days; others may reside within the body for years. For the long-residing compounds, the maximum permissible body burden is 600 becquerels — 16 billionths of a Curie — equivalent to 16 billionths of a gram of radium. The

No action has been taken on the report and last week the Ministry of Defence, which had a squadron of Royal Engineers working on battlefield mine clearance and the removal of military equipment in Kuwait for four months this summer with Royal Ordnance, said it was "not aware" of the calls for experts to be brought in to identify and minimise health and environmental risks.

Royal Ordnance, the privatised munitions company which is under contract to the Kuwait government to clear mines and cluster-bombs from the beaches and deserts south of Kuwait City, said that it did know that there were potential dangers. The staff it had hired were under instructions to take proper precautions and wear gloves and protective clothing when they came across depleted uranium.

But former Royal Ordnance employees who returned from the

and sensitive equipment were needed as the uranium would be "difficult to locate".

The largest Western contractor in the Gulf - Bechtel, a US engineering and management consultancy company, which has 1,000 employees and 9,000 sub-contractors on reconstruction work in Kuwait - was unable to say if it had received any warnings about depleted uranium.

Many - perhaps most - of the uranium rounds in the desert will be in large fragments and not particularly menacing. Risks arise where they have been broken up after smashing into Iraqi armour.

Dr Roger Berry, director of health and safety at British Nuclear Fuels, said that it was the chemical toxicity of uranium rather than its mild radioactivity which posed a threat.

"The big problem is dust," Dr Berry said, "and the main route [into the body] is inhalation." Uranium is a heavy metal and is

more permissive limits would allow the equivalent of 160 billionths of a gram of radium.

The body has natural mechanisms for purging such heavy metals, transferring the uranium to the kidneys and then excreting it through the urine. But too much uranium taken up at once will cause kidney failure.

Dr Berry emphasised that he had no direct knowledge of the amounts or type of uranium that might be present as a result of the use of tank-busting shells in the Gulf war, but said the main worry would be dust produced after the shells impacted.

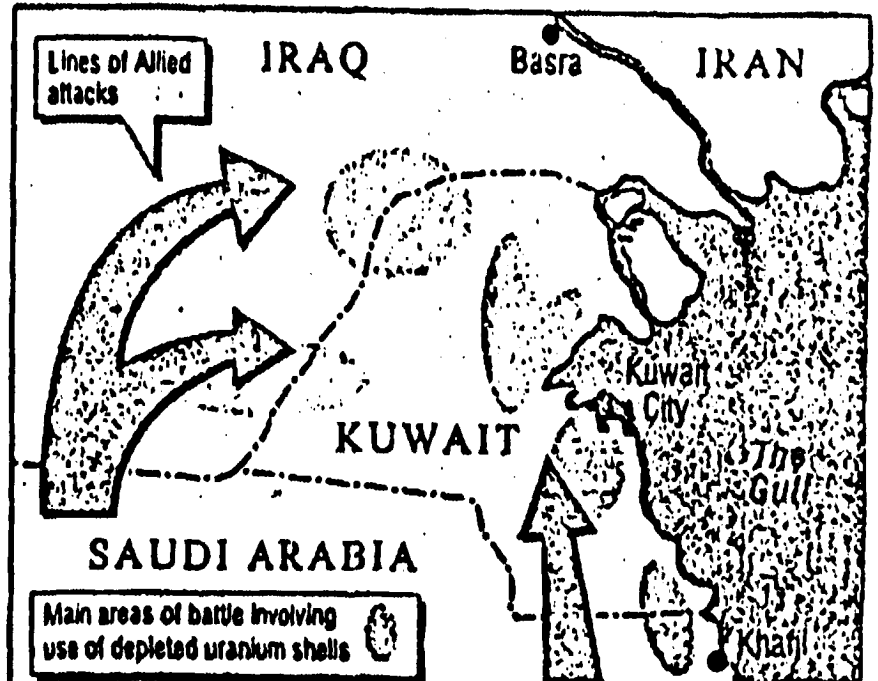
"If it's all retained inside the tanks then there would be no environmental pollution problem." But, Dr Berry said, depending on the chemical composition of the uranium inside the tanks, he would expect that personnel dismantling them would have to be protected by respirators, or at least commercial dust masks.

'Arrow' that can stop a tank

By Christopher Bellamy
Defence Correspondent

AN ENGLISH archer at Agincourt would have had no problem understanding the principles behind a depleted uranium anti-tank round. To penetrate armour, you want a small, hard, dense, sharp head, driven by the power of a much larger device — a longbow, or a tank gun.

Depleted uranium — U-238 — is extremely hard and dense, even more so than the tungsten alloy which is also used for solid armour-piercing shot. Because of this property, it is also used for protection, in the armour of the US M1A1 tank.

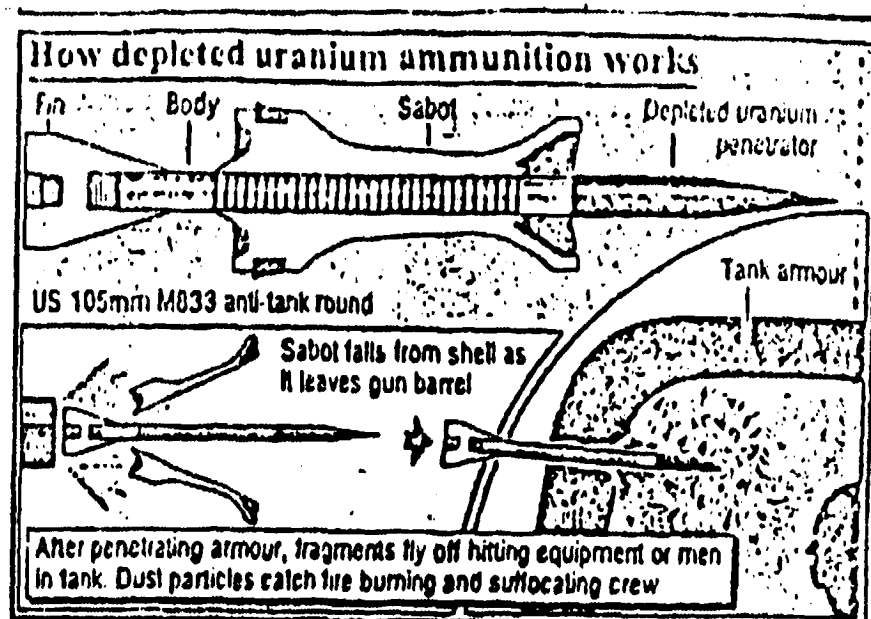


The core of a DU round is the penetrator — an armour-piercing arrow, much like those shot at Agincourt in 1415. It even has fins or flights at the back to stabilise it.

The penetrator is wrapped in a "sabot" (from the French for clog) which fills the bore of the gun and imparts enormous energy. But after it leaves the barrel, the sabot is kicked off and the thin, hard core carries on. Even if the gun is rifled, the spiralling grooves will only impart spin to the sabot. So the fins are still needed to keep the penetrator stabilised after it has left its cradle. The full name is Armour-Piercing, Fin Stabilised, Discarding Sabot (APFSDS). The smaller DU rounds fired from the A-10 aircraft do not have fins, and are therefore APDS.

When it hits the target, the penetrator punches a hole right through the armour. There were cases in which DU rounds were fired at tanks dug in behind sand berms, and went right through both the berm and the tank. What exactly happens depends on where the round strikes. It may crash into the engine compartment, or fly through the turret, knocking out the gun elevating gear, for example, or it may fragment, killing the crew.

However, DU rounds do behave differently from tungsten. Depleted uranium dust catches fire in air, an effect called "pyrophoretic". As the round bores through the armour and heats up, it gives off dust which, when it catches alight in the crew



Graphic: Michael Potocz

compartment, can severely burn or kill the occupants. Vehicles hit by DU rounds will be contaminated with DU dust. Incidentally, this helped the Americans confirm that US Marine vehicles destroyed on the southern Kuwait border had been hit by "friendly fire", as the Iraqis had no DU ammunition. Rounds which fail to find their mark will just bury themselves in the sand, intact.

US A-10 aircraft over fire DU rounds from their 30mm rapid-firing cannon in peacetime, but it is the standard war ammunition. Many of the 750 rounds on board each A-10 would have been DU. And these would not only have been used during the ground war, from 24 to 28 February, but also throughout the air war against Iraq, which began on 17 January.

British and US tanks also used DU. The British fired fewer than

100 DU rounds; they preferred the High Explosive Squash Head (HESH) round which is of more general use. Exploding against the outside of a tank, HESH blasts a scab off the inside armour of the vehicle, with horrific results for the crew.

But the Americans undoubtedly fired many DU tank rounds. The US Marines fired DU rounds from the 105mm guns of their M-60 tanks and the US Army fired it from the 120mm guns of their M1A1s. A Pentagon spokesman said last week that it was impossible to say how much ammunition had been fired during the 100-hour ground battle, let alone what type. "You're not going to get an accurate count. There really wouldn't be any reason. There's quite enough to do without trying to count the number of bullets fired."