

Dirty Bombs

BY DAVE LINDORFF

Now that the bombs have started falling on Baghdad, it's time to start worrying about dirty bombs—those weapons of mass destruction we've been hearing so much about. While not nuclear weapons, they can spread radioactive waste all over an area. We're not talking about the remote prospect of a dirty bomb hitting some American city. We're talking about the near certainty that dirty bombs will be going off all over Baghdad, Tikrit and other Iraqi cities, indeed that they probably are already being detonated there, putting at risk Iraqi civilians, including small children, not to mention U.S. troops who will no doubt soon be entering those cities.

The U.S. has been firing off "dirty bombs" in the form of depleted uranium (DU) weapons now since the 1991 Gulf War against Iraq. Depleted uranium, a radioactive metal that is part of the waste stream from nuclear weapons, turns out to be a highly effective armor-piercing material. 1.7 times as dense as lead, and has the unusual property of self-sharpening: as a rod of the stuff slams into a sheet of steel or a wall of reinforced concrete, instead of mushrooming into a flat, broad projectile that then is slowed or stopped by the obstacle, uranium sheds its exterior layers and becomes sharper as it is propelled by momentum deeper and deeper into its target. Uranium is also highly flammable at the kinds of high temperature generated by a high-velocity collision, and so it incinerates whatever target it hits.

In the 1991 Gulf War, depleted uranium was used extensively in two types of weapons—the 120 mm anti-tank shells fired by Abrams tanks and other anti-tank cannons, and the 30 mm anti-armor guns on the A-10 Warthog ground attack jets. An estimated 300 tons of the stuff was fired off in the Iraqi and Kuwaiti desert during that war. In Kosovo, the same weapons were used, this time reportedly a total of about 12 tons, mostly in the form of small 30 mm projectiles fired by aircraft.

In Afghanistan, the Pentagon introduced a third category of uranium weapon—the so-called bunker-busting bomb—a depleted uranium "smart bomb"

or missile that can burrow deep into the ground or through thick concrete walls to hit heavily shielded shelters or cave hide-outs. The Pentagon has not released information about how much depleted uranium was used in weapons in Afghanistan, but estimates have ranged from several hundred tons to as much as 1000 tons—and this was in conflict that was tiny compared to the likely war in Iraq.

Critics of depleted uranium weapons—and these run from the U.N. World Health Organization to Gulf War veterans groups—charge that the prospect of uranium bunker buster bombs raises the danger of radioactive contamination dramatically, because of where such bombs get used. For the most part, anti-tank weapons, at least to date, have been used where tanks are generally deployed, which is out in the open, where population density is low. Although when a depleted uranium round explodes, the uranium is incinerated, becoming a dangerous aerosol of minute inhalable particles of uranium oxide, out in the desert the risks are relatively low of many people becoming contaminated. Absent a wind, most of that radioactive residue settles within 50-100 yards of the target.

Even so, there are reports from both the Basra area of southern Iraq, where use of depleted uranium shells by British and U.S. forces in 1991 was heavy, and in Afghanistan, of higher than anticipated cancer rates and birth defects. Some suspect that at least some of the cases of what has become known as Gulf War Syndrome among returned U.S. Gulf War veterans is the result of their having inhaled the residue of uranium weapons.

Researchers from a British non-profit organization, the Uranium Medical Research Center (<http://www.umrc.net/projectAfghanistan.asp>) claim that during an investigation of bombed areas in Kabul and especially Jalalabad, Afghanistan, they encountered widespread evidence of illnesses and birth defects which they said were consistent with uranium poisoning and radioactive contamination. They also reported elevated levels of uranium in the vicinity. They called their findings "shock-

ing". Similar reports have come from the area in southern Iraq where uranium anti-tank weapons were widely used.

But these reports of dirty bomb after-effects could be dwarfed if, as expected, the U.S. makes significant use of bunker-busting uranium weapons in urban areas of Iraq. For one thing, the amount of uranium vaporized in an explosion would be vastly greater. There are, for example, only about three kilograms of uranium in a 120mm anti-tank round. But the DU explosive charges in the guided bomb systems used in Afghanistan (for example Raytheon's Bunker Buster - GBU-28) reportedly can weigh as much as one and a half metric tons.

The risks of uranium weapons to soldiers and civilians is a topic of some controversy, even among critics, though no one except the Pentagon and NATO disputes that it is a health threat. A government study prepared for Congress in the mid 1990s offered the following assessment of the dangers of the radioactive weapons: "As much as 70 percent of a DU penetrator can be aerosolized when it strikes a tank. Aerosols containing DU oxides may contaminate the area downwind. DU fragments may also contaminate the soil around the struck vehicle." It adds that there are many paths by which the resulting particles may enter the body - by inhalation, ingestion, or through open

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wounds. The report then states, "If DU enters the body, it has the potential to generate significant medical consequences. The risks associated with DU in the body are both chemical and radiological." Once inside the lungs or kidneys, uranium particles tend to stay, causing illnesses such as lung cancer and kidney disease that may take decades to show up.

According to Dr. J. W. Gofman, a leading expert and critic of low-level radiation risks, particles of uranium smaller than 5 micron in diameter can become permanently trapped in the lungs. By one estimate, a trapped, single uranium oxide particle of this size could expose the adjacent lung tissue to approximately 1,360 rem per year—about 8,000 times the annual radiation dosage considered safe by federal

thereport by the Uranium Medical Research Center, a U.K.-based organization which claims to have found uranium contamination and signs of radiation-sickness and radiation-induced birth defects in people who live around suspected uranium weapon targets in Kabul and Jalalabad, Afghanistan, Fahey himself is critical of the U.S. military's ever-expanding use of these weapons. In one article he wrote on the subject, he quotes a 1990 Pentagon memo on the health risks of exploded uranium ordinance which concludes that, in order to avoid criticism of the weapons' battlefield use, "we should keep this sensitive issue at mind when after action reports are written." His conclusion, "The military's view is that unless you can prove something is dangerous, we'll keep using it. My view

uranium weapons will be far higher. As for the more serious use of uranium-tipped missiles and bombs, which would be more likely to be used in urban settings, the best evidence is that the Pentagon, absent rules that limit its behavior, will use whatever it has in its arsenal that the generals think work best—and clearly uranium-tipped weapons outperform any alternative in terms of their ability to penetrate armor and other heavy shielding.

According to Pentagon studies, uranium projectiles are at least 10 percent more effective at penetrating shielded bunkers and armor than the next-best alternative—tungsten clad weapons. That alone is a powerful incentive to use them. The Center for Defense Information reports that the patents for America's bunker-bust-

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regulations for whole body exposure. Uranium, which besides being carcinogenic is also highly toxic chemically (like lead or mercury), also concentrates in the kidneys and reproductive organs if ingested orally.

Even Dan Fahey, of the Persian Gulf War Veterans Resource Center, a Navy veteran who has criticized some anti-war organizations' charges concerning the dangers of uranium weapons, says that they were "probably a contributor to Gulf War Syndrome" among returning U.S. Gulf War veterans. Although he debunks as "propaganda and science fiction,"

is that given the known health concerns about depleted uranium weapons, unless you can prove it's safe, don't use it."

There is no question about whether or not the US and British are using uranium weapons in the current war against Iraq. Robert Fisk, of the London Independent, quoted a U.S. general on the eve of battle as saying, "We have already begun to unwrap our depleted uranium anti-tank shells." (In the 1991 Gulf War, one in seven Iraqi tanks destroyed by the U.S. was hit by a uranium projectile. This time, the percentage of Iraq's 1800 tanks hit by

ing bombs include both tungsten and uranium-cladded versions, making it clear that these weapons exist in the U.S. military arsenal. Given the Pentagon's public stance that uranium weapons pose no appreciable health risk, it seems clear that these dangerous weapons of mass destruction will be used. Civilians in the future "liberated" Iraq will pay the price for years—maybe generations—to come. CP

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