Commission and NATO, indicate that the use of depleted uranium does not pose a significant radiological risk.

17. In particular, on 6 March 2001, the European Commission's Environment Directorate-General published a report by a group of independent scientific experts commissioned to study the effects of depleted uranium. The group, made up of 35 physicians, chemists and nuclear scientists from member States, concluded that, on the basis of available information, exposure to depleted uranium could not produce detectable health effects.

18. Also in 2001, NATO established an ad hoc committee to study the effects on troops and the civilian population of the depleted uranium used in Alliance operations in the Balkans (depleted uranium was used in the 1991 Gulf War and in the 1999 Kosovo operations). The results of this study, to which institutions such as the International Committee of the Red Cross contributed, indicated that:

(a) There was no evidence of an increase in incidence of illness among peacekeepers in the Balkans compared with the incidence of illness among armed forces not serving in the Balkans;

(b) There was no evidence of a link between depleted uranium and health problems such as leukaemia or other cancers.

19. In conclusion:

(a) Depleted uranium presents little radiological risk, since its level of radioactivity is lower than the level of natural radioactivity. Depleted uranium is only a radiological hazard when, in its pure form, it remains in contact with the skin for an extended period of time;

(b) According to current research, the only possible health risk is the use of a heavy metal such as lead or depleted uranium, which, in certain circumstances, can have harmful effects on the liver and kidneys. An individual must be nearby at the time of impact and must absorb a large quantity of depleted uranium dust in order to be negatively affected by such risks.

III. Replies received from agencies and organs of the United Nations system

International Atomic Energy Agency

[Original: English]
[3 June 2008]

The IAEA assessment of radiological consequences of depleted uranium residues contamination in post-conflict situations

1. In the recent past, the use of depleted uranium in conventional anti-tank munitions during conflicts in the Balkans and the Middle East resulted in the contamination of these territories with radioactive residues.

2. Depleted uranium is one of the by-products of uranium enrichment and, like any other uranium compound, has both chemical and radiological toxicity. Depleted uranium is only slightly radioactive, 60 per cent as radioactive as natural uranium.

Depleted uranium has the same chemical and physical properties as natural uranium. The chemical toxicity of uranium is normally the dominant factor for human health. However, in special circumstances in which depleted uranium was inhaled or ingested or where fragments came into close contact with individuals, it is necessary to also assess its radiological impact.

3. After the above-mentioned conflicts, questions arose regarding the possible consequences of the existence of depleted uranium residues for local populations and the environment. As part of the United Nations system's effort to respond to the requests of affected States to assess the consequences of the use of depleted uranium ammunitions in conflict situations, IAEA — with its unique statutory functions, i.e., to establish standards of safety for protection against radiation exposure and to provide for the application of these standards — has been involved in coordinated evaluation exercises.

4. A number of evaluation of the environmental and health impact of depleted uranium munitions have been performed by national and international organizations. IAEA participated together with UNEP and WHO in several international appraisals like those in Bosnia and Herzegovina, Serbia and Montenegro, Kosovo, Kuwait, Iraq and Lebanon. The radiological framework for these studies was the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources (Safety Series No. 115, IAEA, Vienna, 1996) and the methodology was generally based on sampling campaigns, analysis of the environmental samples in recognized international laboratories and radiological assessments performed by international experts.

5. The objectives of these assessments have been to draw conclusions regarding the toxic and radiological safety and to make recommendations to mitigate the hazards to the population and the environment, on the basis of comprehensive surveys at specific locations where depleted uranium ammunition residues may have been spread. These studies exclusively dealt with civilian inhabitants and environment radiological risk in areas affected by military actions after the conflicts were terminated. The results and conclusions are valid at the time of the assessments and, when possible and under certain grounds, prospectively, IAEA did not evaluate the impact of depleted uranium ammunition on the troops or the populations at the time of the conflicts.

6. In general, the results of these assessments indicated that the existence of depleted uranium residues dispersed in the environment does not pose a radiological hazard to the population of the affected regions. Estimated annual radiation doses that could arise from exposure to depleted uranium residues would be very low and of little radiological concern. Annual radiation doses in the areas where residues do exist would be of the order of a few microsieverts, well below the annual doses received by the population from the natural sources of radiation in the environment and far below the reference level recommended by IAEA as a radiological criterion to help establish whether remedial actions are necessary.

7. Complete depleted uranium ammunition or fragments can still be found at some locations where depleted uranium weapons were used during past wars. Prolonged skin contact with these depleted uranium residues is the only possible exposure pathway that could result in exposures of radiological significance. As long as access to the areas where these fragments exist remains restricted, the likelihood that members of the public could come into contact with these residues is

low. The recommendations to the national authorities, in all the cases studied were to collect any depleted uranium ammunition or fragments and any war equipment which have been in direct contact with these ammunitions and isolate them from the public in appropriate locations until it can be processed as low level radioactive waste and eventually safely disposed of. Some environmental remedial actions like covering of areas with uncontaminated soils could be convenient at some particular locations, depending on the use of the land.

8. After the conclusion of the investigations in which IAEA participated, the national authorities in the affected regions should have had the competence and equipment to carry out the necessary monitoring, survey and remedial activities in relation to depleted uranium. This was actually observed in all the cases studied.

9. IAEA together with UNEP and WHO provided coordinated response to the request of its Member States to assess the post-conflict radiological risk to the public and the environment from the contamination of territories with depleted uranium residues. IAEA generally concluded that the radiological risk was not significant and could be controlled with simple countermeasures conducted by national authorities. It was also observed that in a post-conflict environment where the social and economic disruption is high, the radiation fear linked to the presence of depleted uranium residues further increases the anxiety of the population. In many of the concerned countries the results of the radiological evaluations provided a basis for public reassurance due to the low significance of the radiological impact.

World Health Organization

[Original: English]
[2 June 2008]

Background

1. The main civilian uses of depleted uranium include counterweights in aircraft, radiation shields in medical radiation therapy machines and containers for the transport of radioactive materials. The military uses of depleted uranium for defensive armour plate is based on its high density as well as ability to ignite on impact if the temperature exceeds 600° C.

2. Earlier reports of the international organization (IAEA, UNEP and WHO) focused on environmental and health impact of depleted uranium for example in Bosnia and Kuwait. Depleted uranium concentration levels in soil exceeding background levels of uranium was reported close to locations of depleted uranium shrapnel or remains of tanks left after military operations. Over time, the depleted uranium concentration is dispersed into the wider natural environment by wind and rain. People living or working in affected areas may inhale re-suspended contaminated dusts.

Potential health effects of exposure to depleted uranium

3. Average annual normal intake of uranium by an adult is estimated to be about 500 μg from ingestion of food and water and 0.6 μg from inhaling air. Ingestion of small amounts of depleted uranium-contaminated soil by small children may occur while playing in post-conflict zones. Occasional exposure of depleted uranium through the skin contact does not result in any ascertainable health effect.