

## **RADIATION EFFECTS**

### ***Paper submitted by the Iraqi delegation to the briefing meeting on nuclear liability during the forty- second session of the General Conference***

The International Agency at the twenty- seventh session of its General Conference in 1983 adopted resolution GC (XXVII)/ RES/407, which called for the protection of nuclear installations devoted to peaceful purposes against armed attacks. This was reinforced by the Agency during the twenty- ninth session of its General Conference in 1985 when it adopted resolution GC (XXIX)/ RES/444, preambular paragraph (f) of which stated “ Concerned that such attacks raise fears about the radiological safety....”.

Furthermore, operative paragraph 2 of this resolution stated: “ Considers that any armed attack on and threat against nuclear facilities devoted to peaceful to purposes constitutes a violation of the principles of the United Nations Charter, international law and the Statute of the Agency”.

Despite this, in 1991 Iraq suffered a major military attack on its nuclear facilities which were under Agency safeguards. That in the total destruction of these facilities and the release of radiation causing extensive contamination, the consequence of which are still being suffered. All its facilities, including reactors, which contained fresh nuclear fuel as well as spent (irradiated) fuel and been operating at maximum capacity, were destroyed as a result of the bombing of nuclear sites by thousands of missiles and rockets. The bombing of these reactors, in addition to other nuclear facilities and laboratories, resulted in large amounts of contaminated liquid and solid material of various levels of radioactivity, as well as hundreds of tonnes of radioactive waste. This was indicated in the report of the expert group headed by Mr. V. Tsyplenkov, which the Agency sent to Iraq from 10 to 20 June 1995 together with the ongoing monitoring group to assess the damage caused by the destruction of the radioactive waste processing plant (the only one in Iraq) and to study the possibility of

this being rebuilt to process the contaminated material from the destruction of the nuclear facilities and laboratories. The amount of contaminated solid material requiring treatment as estimated to be 613 to 763 tonnes. While the liquid material was estimated to be 662 to 1462 cubic metres.

Moreover, the States which took part in the attack used shells of depleted uranium in various part of southern Iraq Killing or wounding large numbers of Iraqis. It was reported in the world of media that the use of these weapons had resulted in 50 000\* deaths among Iraqi children during the first quarter of 1991. It also led to large - scale environmental contamination in the areas in which they were used and Iraq citizens are suffering from the effects in the form of incurable diseases unknown to the region, such as various Kinds of cancer and cases of abortion where woman gave birth to deformed babies, quite apart from the long effects on the food chain. Measurements taken in some of the areas where these weapons were used indicated that exposure dose rates were 11 times than the natural background level, This is corroborated by the fact that the soldiers who were involved in the attack using these prohibited weapons are themselves still suffering from various kinds of diseases, as can be seen from newspaper articles and reports published in these countries. It gives one an idea of the damage to man and the environment in the areas where such weapons were used if the uses were themselves exposed to such diseases.

Listed below are some examples which provide irrefutable proof that the United States and Britain used such weapons which release highly toxic radioactive substance when they strike a solid surface thereby posing a threat to health and the environment.

1. Uranium Battlefields Home and Abroad (Depleted used by US Department of Defense) by Grace. Bukowski et al, March 1993.
2. " US Uranium Shells Used in Gulf War May be Killing Iraqi Children" by Eric Hoskins, New York Times, 21 January, 1993.
3. David { sic } Rifkind, the British Secretary of State for Defence, admitted in his letter DS/S/ 550962/94 M dated 6 December 1994 to the British MP Sir Malcolm { sic } Steel that British force had used 88 depleted uranium shels and that the United States had

used an even larger number. He also acknowledged the danger posed by such shells.

4. The following tables show the results of measurements which constitute categoric scientific proof of the deployment of such weapons.

**Table 1**

Results of field measurements of exposure dose rates in the North Rumaylah region

	Type of target selected	Radiation exposure level	( $\mu$ R/h)
		Natural radiation exposure level	Radiation exposure level at the target
1.	BMB- Personnel transporter	8.1	24.6
2.	MTLB personnel transporter	8.2	9.7
3.	T-72 tank	8.7	15.1
4.	Rescuer tank	7.2	13.2

**Table 2**

Result of field measurements of exposure dose rates in the Ash Shamiyah port region and Kadirat Al- Athimy

	Type of target selected	Radiation exposure level	( $\mu$ R/h)
		Natural radiation exposure level	Radiation exposure level at the target
1.	T- 72 tank	7.0	60.8
2.	Watercan- type personnel transporter	7.2	60.3
3.	Radiation background at a site a long way from the T- 72 tank	7.3	7.2
4.	A site a long way from the personnel transporter	7.3	7.2

**Table 3**

Results of field measurements of exposure dose rate in the demilitarized area and its surroundings

	Type of target selected	Radiation exposure level	( $\mu$ R/h)
		Natural radiation exposure level	Radiation exposure level at the target
1.	Border station at Kharanj for pumping Iraqi oil across Saudi Arabia hit by a depleted uranium shell	7.4	8.3
2.	T-55 tank between crossing Nos 13 and 14	7.6	21
3.	T-72 tank	7.2	23
4.	T-55 tank to the left of the closed crossing No. 9	7.4	67
5.	T-72 tank near the international central checkpoint between crossing Nos 12 and 13	7.6	69
6.	T-72 tank on the south – eastern slope of Mount Sanam near the headquarters of the warning and control brigade	7	65

The International Atomic Energy and other relevant United Nations organizations are therefore called upon in accordance with their mandates and the objective for which they were established to take a firm stand assist the competent Iraqi authorities in making an effective contribution to the study of these effects and efforts to eliminate and reduce them, and to mitigate the suffering of those who are currently exposed and will be exposed in the future to these effects by providing sophisticated environmental and radiation measuring devices and medical teams and equipment to study the diseases caused by these effects, particularly those relating to the increase in rates of miscarriage and infant deformities in the affected areas.