



DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, DC 20350-2000

IN REPLY REFER TO

5104
Ser N455C/N5U9011382
18 July 2005

U.S. Nuclear Regulatory Commission
Division of Industrial and Medical Nuclear Safety
Office of Nuclear Material Safety and Safeguards
Washington, DC 20852-0001
(Attn: Patricia K. Holahan)

Ladies and Gentlemen:

Subj: NAVAL RADIATION SAFETY COMMITTEE REPLY TO NRC
REQUEST FOR COMMENT ON Mr. J. SALSMAN 10 CFR 2.206
PETITION TO MODIFY DEPLETED URANIUM LICENCES

Ladies and Gentlemen:

Thank you for allowing the Naval Radiation Safety Committee the opportunity to reply to Mr. Salsman's petition under 10 CFR 2.206 requesting "that all licenses allowing the possession, transport, storage, or use of pyrophoric uranium munitions be modified to impose enforceable conditions on all such licensees in order to rectify their misconduct." Below, we will try to briefly address the allegations raised by Mr. Salsman.

Prior to and following the use of depleted uranium (DU) as ammunition, the health and environmental aspects of this material have been carefully considered. For the past 50 years, the health effects of depleted uranium have been studied and reviewed by qualified, independent experts on multiple occasions. Several reviews of the primary literature concerning uranium, depleted uranium exposure and its risks are available, including those from the Agency for Toxic Substances and Disease Registry (ATSDR), the RAND review, and the US Institute of Medicine. In addition, since the 1991 Gulf War, several independent panels of health and environmental experts have scrutinized depleted uranium, including those of the U.S. Presidential Advisory Committee on Gulf War Illnesses and the U.S. Presidential Special Oversight Board.

The Department of Defense (DOD) continues biomedical research to ensure that our depleted uranium exposure assessments and health risk characterizations are valid. The Armed Forces Radiobiology

Research Institute (AFRRI) research cited by Mr. Salsman is a part of this ongoing effort. In addition, our commitment extends to a joint effort with the Department of Veterans Affairs (VA) medical follow-up program monitoring the health of our Gulf War Veterans with embedded depleted uranium fragments.

During the Gulf War, 33 US soldiers were exposed to DU as a result of friendly-fire incidents in which their vehicles were hit by DU rounds fired by other members of US forces. These soldiers' exposures to DU were through shrapnel wounds, inhalation, and wound contamination. The health status and amount of uranium in the bodies of these soldiers have been monitored since the war by the Department of Veterans Affairs Medical Center in Baltimore, Maryland, which has published periodic updates on these veterans' health. About half of this group still has depleted uranium metal fragments in their bodies. Those with retained depleted uranium fragments have shown higher than normal levels of uranium in their urine since monitoring began in 1993. These veterans are being followed very carefully and numerous medical tests are being done to determine if the depleted uranium fragments are causing any health problems. The veterans being monitored who were in friendly fire incidents but who do not have retained depleted uranium fragments, have not shown higher than normal levels of uranium in their urine. For all 33 veterans in the program (including those with retained depleted uranium fragments), all tests for kidney function have been normal. In addition, the reproductive health of this group appears to be normal in that all 38 babies fathered by these veterans by 2001 had no birth defects. To date, these studies are consistent with the initial estimates of potential health and environmental effects related to the military applications of depleted uranium.

Other allegations have been made suggesting links between DU environmental contamination in Kosovo and Bosnia and allegedly higher rates of leukemia, other types of cancers, and unspecified illnesses among troops and the local population. These allegations have followed other concerns that diseases among veterans of the Gulf War and Iraqi citizens may be linked to environmental exposure to depleted uranium. International organizations have conducted environmental surveys in Bosnia-Herzegovina and Kosovo and have consistently reported no widespread depleted uranium contamination and no current impact on the health of the general population or deployed personnel. Several international teams have collected and analyzed soil, air, water, vegetation, and food samples in the Balkans. In addition, several of the nations that deployed peacekeeping personnel to the Balkans have undertaken medical monitoring and

epidemiological assessments. The objective of these assessments is to determine whether there is an increase in medical problems in personnel who served in the region compared with those who did not. To date, none have found a connection between depleted uranium exposure and leukemia or any other disease.

Overall, the documentation supporting Mr. Salsman's petition fails to add information to what has already been studied and published in the literature on DU effects. Other allegations in the petition are based on Mr. Salsman's assumptions about the chemical reactivity of depleted uranium, and the additional assumption that putative resultant chemical species will cause unspecified harm not found in other scientific studies. Because of the speculative nature of Mr. Salsman's allegations and the lack of experimental data to support such, the Navy does not believe that this petition shows additional safety concerns unaddressed in other studies.

Sincerely,

A handwritten signature in cursive script, appearing to read "L. L. Fragoso".

L. L. FRAGOSO
By direction