Last Update: December 13, 2000

Many Gulf War veterans have expressed concern their unexplained illnesses may result from their experiences in that war. In response to veterans' concerns, the Department of Defense (DoD) established a task force in June 1995 to investigate those incidents and circumstances relating to possible causes. The Office of the Special Assistant to the Deputy Secretary of Defense for Gulf War Illnesses assumed responsibility for these investigations on November 12, 1996, and gathered information on depleted uranium. This is the second interim report on depleted uranium; it updates the August 4, 1998 Environmental Exposure Report, "Depleted Uranium in the Gulf."

To inform the public about the progress of this office, DoD is publishing on the Internet and elsewhere accounts related to the possible causes of illness among Gulf War veterans, along with documentary evidence or personal testimony used in compiling the accounts. This environmental exposure report is such an account.

TABLE OF CONTENTS

I. OVERVIEW

II. METHODOLOGY

III. DEPLETED URANIUM -- A SHORT COURSE
   III. A. Health Effects from the Chemical Toxicity of Depleted Uranium
   III. A. 1. DU's Chemical Properties
   III. A. 2. Chemical Effects
III A. 3. Chemical Toxicity Standards and Guidelines
III A. 4. Implications for the Military
III B. Health Effects from the Radiological Toxicity of Depleted Uranium
III B. 1. General Considerations on Radiation Effects
III B. 1. a. Radioactivity and Radiation Emissions
III B. 1. b. Radiation Effects
III B. 1. c. Exposure to Radiation
III B. 1. d. Radiation Exposure Quantities and Units
III B. 1. e. Sources of Exposure
III B. 2. DU's Radiological Properties
III B. 3. Radiological Effects of Depleted Uranium
III B. 4. Radiological Protection Standards and Guidelines
III B. 5. Implications for the Military
V. E.

IV. POTENTIAL HEALTH EFFECTS FROM DU USE IN THE GULF THEATER, 1990-1991
IV. A. Summary of Dose and Risk Assessment Methods
IV. B. Level I Exposures (Friendly Fire)
IV. B. 1. Issues with Level I Assessments
IV. B. 2. Refinement of Level I Estimates of DU Intake and Radiation Dose
IV. B. 3. Assessing Possible Health Effects of Refined Level I DU Intake and Radiation Dose Estimates
IV. C. Level II Exposures
IV. C. 1. Field Units
IV. C. 1. a. Estimates of DU Intake and Radiation Dose
IV. C. 1. b. Assessing Possible Health Effects
IV. C. 2. Camp Doha Personnel
IV. C. 2. a. Estimates of DU Intake and Radiation Dose
IV. C. 2. b. Assessing Possible Health Effects
IV. D. Level III Exposures
IV. D. 1. Field Units
IV. D. 1. a. Estimates of DU Intake and Radiation Dose
IV. D. 1. b. Assessing Possible Health Effects
IV. D. 2. Camp Doha Personnel
IV. D. 1. a. Estimates of DU Intake and Radiation Dose
IV. D. 2. b. Assessing Possible Health Effects
IV. E. Other Reports Investigated
IV. E. 1. Welders
IV. E. 2. Ammunition Truck Explosion
IV. E. 3. A-10 Crash
IV. E. 4. Misfired DU Rounds on A-10 Aircraft
IV. F. Summary of Health Assessments
V. E.

V. FOLLOW-UP
V. A. Environmental Assessments
V. B. Post-Gulf War Deployed Unit Testing and Evaluation of DU Medications
V. C. DoD and VA Medical Surveillance Program for Gulf War Veterans
V. D. Medical Testing By Other Laboratories
V. E. Postwar Research and Literature Reviews
V. E. 1. Embedded Fragment Research
V. E. 2. Literature Reviews
V. E.

VI. LESSONS LEARNED AND RECOMMENDATIONS
VI. A. Doctrine and Policy
VI. B. Organizational Support to Deployed Units
VI. C. Training and Education
VI. D. Materiel
VI. E. Medical Readiness, Force Health Protection, and Risk Management
VI. F. Information Management (Including Record-Keeping)
VI.

VII. CONCLUSION
VI.

TAB A -- Acronyms, Abbreviations, and Glossary
VI.
TAB B -- Units Involved
VI.
TAB C -- Properties and Characteristics of DU
VI.
TAB D -- Methodology
VI.
TAB E -- Development of DU Munitions
VI.
TAB F -- DU Use in the Gulf War
VI.
TAB G -- DU Exposures in the Gulf War
VI.
TAB H -- Friendly-fire Incidents
VI.
TAB I -- The Camp Doha Explosion and Fires (July 1991)
VI.
TAB J -- Tank Fires
VI.
TAB K -- DU Notification and Medical Follow-up Program
VI.
TAB L -- Research Report Summaries
VI.
TAB M -- Characterizing DU Aerosols
VI.
TAB N -- Gulf War Protective Guidance
VI.
TAB O -- DU Dose and Risk Estimates for the Gulf War Theater, 1990-1991
TAB P -- DoD and VA Medical Surveillance Programs for Gulf War Veterans IV.
VI.
TAB Q -- General Accounting Office Comments
VI.
TAB R -- Changes in this Report
VI.
TAB S -- Bibliography
VI.
END NOTES

| First Page | Prev Page | Next Page |