APPENDIX N - Data Input for Modeling DU Exposures

N.1 Introduction

Obtaining much of the data listed below is paramount for validating and refining the DU human exposure assessments and health risk characterizations provided in this report for the various OSAGWI DU exposure scenarios.

N.2 Sources of DU Munitions Used During the Gulf War

- Army 120mm and 105mm DU KEP munitions
- Air Force GAU-8 (PGU-14) 30mm DU munitions
- Marines 105mm KEPs and GAU-12 (PGU-20) 25mm DU munitions

N.3 Data Requirements for a Preliminary Dispersion Modeling Assessment

- Daily (ground war) geo-locations of U.S. Army VII Corps units.
- Daily (ground war) geo-locations of VII Corps units engaged in VII Corps tank battles firing DU munitions. Include date, time, number of Iraqi tanks involved, and ground area covered by these battles.
- Daily (ground war) types and quantities of DU munitions used in VII Corps tank battles.

- Daily number of sorties flown by U.S. Air Force A-10 firing DU munitions and the number of DU rounds fired per sortie. The average number of DU rounds that were fired that hit the target.
- Daily (ground war) geo-locations of U.S. Air Force A-10 aircraft and U.S. Marine Corps AV-8B Harrier aircraft firing DU munitions. Include date, time, and estimated ground area covered by these sorties.
- Daily (ground war) geo-locations of U.S. Marine Corps units.
- Daily (ground war) geo-locations of U.S. Marine Corps units engaged in tank battles firing DU munitions. Include date, time, number of Iraqi tanks involved, and ground area covered during these battles.
- Daily (ground war) types and quantities of DU munitions used in U.S. Marine Corps tank battles.
- Geo-locations of U.S. Marine Corps units engaged in fighting at Al-Khafji. Include date, time, number of Iraqi tanks involved, and ground area covered by this battle.
- Types and quantities of DU munitions used at Al-Khafji.
- Include daily (ground war) geo-locations of any other military divisions or regiments engaged in battles firing DU munitions. Include date, time, number of Iraqi tanks involved, and ground area covered by these battles.
- Types and quantities of DU munitions used by any other military divisions or regiments, including aircraft.

- Geo-locations of fratricide incidents and other incidents (for example, Camp Doha) involving explosions or fires of uploaded DU munitions. Include date, time, number of vehicles/tanks involved, and ground area covered by these incidents.

N.4 Additional Data Requirements

- If the published average number of rounds per tank kill was 1.9 (2 rounds), were both rounds DU?
- What percentage of the Iraqi tanks was destroyed by DU rounds?
- Did all of the Iraqi tanks and other vehicles impacted or perforated by DU munitions burn? If not, what percentage did?
- Description of the interior of the armored vehicles immediately after perforation from fratricide incidents. How much "smoke" was present inside the armored vehicle after perforation? Were NBC masks worn prior to perforation or were they donned after perforation? If "smoke" was present after perforation, how long did it take to dissipate?
- Was there a need for interior fire suppression after impact and perforation from a fratricide incident? If so, did the automatic halon fire suppression system activate and/or was the manual halon fire suppression activated? If either the automatic or manual halon system was activated, did it adequately suppress combustion processes? How well did the fire suppression system work to dissipate "smoke"?
- How much time elapsed between impact, perforation and evacuation from a fratricide incident? How much time elapsed before the arrival of the First Responder(s)? Did the First

Responder(s) have to enter the damaged vehicle? If so, how long did the First Responder(s) remain in the damaged vehicle?

- Were any of the hydraulic systems in the damaged armored vehicles damaged after perforation from a fratricide incident? Did interior or exterior surfaces of damaged armored vehicles have "oily" residues as a result of this or by some other mechanism?
- Estimate the vertical height of the smoke plume from a burning tank uploaded with DU munitions.