

Site Safety Response at Dunn Field

Captain Chris R. McKelvey, Commander of the Defense Distribution Depot Susquehanna, Pennsylvania (DDSP), spoke to the Memphis Depot Restoration Advisory Board (RAB) in October as part of a briefing on safety response procedures at Dunn Field.



Captain Chris McKelvey, the military commander in charge of the Depot, outlines a new communications procedure to ensure the RAB and public receive timely notification of any future events related to health and safety.

On September 15, 2000, three employees of UXB International Inc. were examined and released by doctors at the Regional Medical Center in Memphis, following a routine safety response by on-site medical and safety specialists. The workers noticed a strange odor and reported feelings of nausea, headache, dizziness and sinus irritation, after an hour inside the vapor containment structure (VCS). Air and soil samples taken before and after the incident showed that no mustard agent was present at the site.

The three men had been working in soil around a 500-kilogram empty bomb casing that was being removed from Site #24-A. They were dressed in the personal protective equipment (PPE), as required by the Site Safety Plan.

The incident was reported to the onsite Safety Specialist who sent the workers to the Regional Medical Center. Dr. Lynda Park and toxicologist Dr. Stephen Winbery, who are trained in chemical emergencies, examined the workers and blood tests were performed. They were released to unrestricted work shortly after arriving

at the hospital. While the CWM team is confident that no mustard agent was present, the soil samples contained low levels of two breakdown by-products of sulfur mustard, known as thioxane and dithiane. These by-products were produced when the mustard was combined with a bleach mixture to neutralize the bomb casings prior to being buried in 1946.

The sulfur mustard by-products are not chemical warfare materiel and do not present a health concern at the low levels detected at Site #24-A. However, Dr. Park and Dr. Winbery believe these by-products could cause the symptoms described by the workers. Follow-up examinations of the workers found no further symptoms.

This was not an emergency situation, and the CWM team took the appropriate steps to manage the on-site safety response. However, Captain McKelvey expressed his concern about the delay in notifying the Depot staff, the RAB members and the community. Under the Captain's order, the U.S. Army Corps of Engineers has implemented a process of daily briefings with the Memphis Depot Caretaker. The CWM on-site safety specialist now reports daily to the Depot on the activities at Dunn Field.

This daily briefing process will continue until the CWM removal action is completed. Captain McKelvey assured the RAB members that they would receive timely notification of any future events related to health and safety. □



Dr. Lynda Park, Chairman of the Department of Emergency and Medical Director of the Regional Medical Center, tells the audience at the October RAB meeting that the three employees were not exposed to CWM.

You Ask

Throughout the past few months, community and RAB members asked a number of questions about the Depot's environmental program. Here are some of those questions (more can be found in the Q&A section of the Depot's website at www.ddc.dla.mil/memphis):

Q. What is a Risk Assessment and what does it tell me?

A. Conducting a Risk Assessment allows investigators to determine the level of potential health risks that may exist in a geographic area due to the environmental conditions. Also, it identifies what future land uses will be permitted on the site, and determines if there is a need for future site management to protect human health and the environment. Using documented scientific information on the nature and effect of potentially hazardous substances on humans and animals, investigators consider a wide range of exposure scenarios to determine how people might come into contact with the soil. A Risk Assessment provides a high level of confidence about the risks that specific compounds might present.

Q. How was the Risk Assessment performed? Did it cover 100% of the Main Installation?

A. The Risk Assessment was conducted according to strict standards and procedures approved by the U.S. Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC). Based on a complete examination of historical records, the Remedial Investigation looked at areas where past Depot activities involved potentially hazardous substances. In addition, samples were also taken at locations across the Main Installation where there was no evidence of hazardous substances being handled. The soils portion of the Risk Assessment is based on the results of over 99,000 analyses conducted on more than 1,200 soil samples. The methods used for collecting and analyzing the samples were based on proven practices to provide a high level of confidence that the Main Installation is safe for future industrial use.

Q. What is an exposure unit and why is it important?

A. An exposure unit is an area in which people might move around when performing regular activities and, in doing so, they may be exposed to substances in the soil or surface-water that are present across the entire area. The results of all the sampling performed in each exposure unit allows investigators to determine the maximum possible exposure concentrations (or the 'dose') that an individual could potentially receive over time through exposure to the area.