



The author observes a nuclear mission on the master control computer.

The Foxhole

By 2LT Nhu-Dan Q. Duong

Prior to the United States armed forces deployment to Saudi Arabia for *Operation Desert Storm* and *Operation Desert Shield*, the United States Army Chemical Corps identified deficiencies in chemical detection equipment. With Saddam Hussein's threat of chemical warfare use, it was necessary to have a forward reconnaissance element to detect and identify such threats.

The result was the introduction of the Nuclear, Biological, and Chemical Reconnaissance System (NBCRS)—the Fox.

The Fox is capable of detecting and identifying nuclear and chemical contamination on the battlefield in both mobile and stationary modes. To maintain the technical, but perishable, skills of operating the Fox, soldiers need periodic refresher training.

To facilitate this training, the United States Army commissioned the development of the Fox Simulator. Because access to German and Continental United States-based simulators is restrictive, the need for a Fox Simulator in the European community is essential to maintain the combat readiness of forward deployed Fox crews.

The introduction of the United States Army Europe's (USAREUR) first Fox Simulator of 13 December 1993 marked the culminating point of many months of work by a team of chemical professionals to bring the system "on line." Through the concerted efforts of USAREUR, the V Corps Chemical Section, and Department of the Army staff, the United States Army allocated 1.8 million dollars for the construction, installation, and maintenance of the Fox Simulator in Germany.

Determining where the Fox Simulator would reside was first

priority. After identifying the location, the lengthy process of installing the simulator to contract specifications followed. With the cutting of the inaugural ribbon came the opening of "The Foxhole," USAREUR's new Fox Simulator training facility. Reconnaissance platoons throughout Germany can now conduct much-needed sustainment training, thus expanding their skills and knowledge of this most valuable tool.

The V Corps NBC logistics section was responsible from the outset for coordinating the installation of the Fox Simulator. They negotiated the simulator contract and acted as the contracting office representative for the DA-awarded contract. Many individuals spent numerous hours on the phone and miles on the road between Bremen and Aschaffenburg, Germany, ensuring that the simulator met the training needs of the Army.

Aschaffenburg, Germany, is the location of the M93 Fox Simulator.

Aschaffenburg's central location allows easy access for the reconnaissance platoons in the 92d Chemical Company, 3d Infantry Division (located in Kitzingen) and the 25th Chemical Company, 1st Armored Division (located in Buedingen). Its prime location allows units to travel to the trainer, conduct drills, and return to their respective duty stations the same day, saving TDY and travel costs for the units.

Aschaffenburg Training Area also includes a maneuver area, which allows crews to apply what they have recently practiced on the simulator to their assigned vehicles. Because personnel from the V Corps' 503d Chemical Detachment (JB), stationed in Frankfurt, maintain and operate the simulator, Aschaffenburg is the ideal place to locate the simulator.

The training site includes a laboratory and classroom where visitors can observe training. The laboratory consists of a ventilated hood area to mix the

simulants; an oven to decontaminate the silicon wheels and sand; a sink, an eyewash station, and a storage cabinet. Installing three video monitors and four fixed cameras to view the training on the simulator enhances the learning process. By strategically placing the four video cameras, personnel in the classroom can observe crews conducting their missions.

Bruker-Franzen Analytik GmbH built the Fox Simulator and subcontracted to Weidelt. The simulator is a mock-up of the M93 NBCRS Fox with the right side cut out. The simulator contains the Mobile Mass Spectrometer (MM1), the ASGI (radiation detection and measurement instrument), a self-contained Vehicle Orientation System (VOS-25), the double-wheeled sampling unit, the probe, and the sampler box. The simulator also has an internal communication system, a driving simulator, NBC markers, and a central control computer. Four sand-filled,



SSG Florentino Arroyo (left) and the author operate equipment in the simulator.



SSG Florentino Arroyo (left) and SGT Henry Rancifer, HQ V Corps STB, conduct a recon mission.

simulant-contaminated trays (located to the rear of the vehicle), supply the chemically contaminated surfaces necessary for simulating air and surface monitoring. The drum and spray system simulates the vehicle's movement in order for operators to use the sample wheels.

CSM Gilbert Paez, Command Sergeant Major of V Corps, introduced the Fox Simulator at the inaugural ceremony on 13 December 1993. Dr. Franzen, designer of the quatropole, the heart of the MM1, was guest speaker. Other distinguished guests included representatives from USAREUR headquarters; Weidelt; Bruker-Franzen Analytik; Aberdeen Proving Ground, Maryland; and the USAREUR Contracting Team. Enacting a near side/far side reconnaissance mission showed the visitors the capabilities of the various machines, instruments, and computers found in the simulator. A reception, compliments of the Bruker-Franzen Analytik, followed the ceremony.

Since the opening of the Foxhole, a number of reconnaissance soldiers completed a rigorous program of

sustainment training, coordinated through and conducted by 503d Chemical Detachment (JB) personnel. This training is only for L-5 qualified soldiers who received their basic course training at Fort McClellan, Alabama. The simulator enhances crew readiness by training crews to work as a team. They learn to conduct the two missions (near side/far side and alternate route) of a reconnaissance unit. Using simulants, these crews practice detecting and identifying chemical agents. The use of simulants is prohibited at their respective units and at other major training areas in Germany due to environmental concerns. The master computer feeds data into the ASG1 so that crews can conduct radiological survey and monitoring missions. The simulator allows these crews to train as if they were in the Fox reconnaissance vehicle, while saving the wear and tear of unit vehicles. At a minimum, the two reconnaissance platoons should train at the simulator semi-annually; however, quarterly training is preferred. Two crews can go through each day so that the entire platoon completes training

within three days. Each crew will execute two or three reconnaissance missions during their training period. Trainers do not provide formal written evaluation, but conduct a thorough after-action review instead.

To reinforce the principles of NBC defense (avoidance, protection, and decontamination) in young soldiers, the Fox Simulator has proven essential. The NBCRS Fox Simulator is a great asset to reconnaissance units stationed in Germany. Since chemical defense units can use the Foxhole anytime, maintaining proficiency in reconnaissance skills through the use of the simulator has moved to the top of the unit sustainment training

lists. The simulator in Aschaffenburg refines technical skills and instills greater confidence in fox crews in their ability to conduct wartime missions. It's only through a dedicated training location, such as the Foxhole, that Fox crews in Germany hone their fine edge.

The author would like to acknowledge the following individuals for their assistance in the successful installation, maintenance, and operation of the NBCRS Fox Simulator: MAJ John V. Mallamaci, SFC Peter J. Vega, SSG Woodrow Davis, Ms. Marlene Mills, Ms. Mary Hughes, and Mr. Reiner Spudich. Much appreciation to MAJ Tab A. Blazek and MAJ Max L. Kline for their editorial input.

2LT Nhu-Dan Q. Duong is the executive officer of the 503d Chemical Detachment stationed in Frankfurt, Germany. She has completed the officer basic course and airborne school. She graduated from Norwich University with a Bachelor of Science in mathematics and biology.