

Being an Environmental Officer in a Facilities Engineer Detachment

By Major Glen L. Jackson

Many US Army Reserve and National Guard soldiers join up for the opportunity to do something different during their monthly drills and annual training. That was certainly true when I first joined a National Guard armored cavalry troop. Leading a platoon of Bradley fighting vehicles was very different from my civilian job at that time as a district conservationist for the US Department of Agriculture (USDA) Soil Conservation Service. However, changes in both my civilian job and Reserve unit led me to perform almost identical tasks when I was deployed to Iraq as part of Operation Iraqi Freedom in February 2003.

I deployed as part of Detachment C, US Army Facility Engineer Group (USAFEG). USAFEG units are facility engineer detachments (FEDs) or facility engineer teams (FETs) that assume the functions of a Directorate of Public Works (DPW) at contingency bases of operations. FEDs and FETs have been deployed to Afghanistan and throughout the Middle East since the beginning of combat operations in the US Army Central Command (CENTCOM) area.

My position with the FED during peacetime was as an environmental officer. In my civilian job, I am an engineer for Westinghouse Savannah River Company (WSRC), which operates the Savannah River Site for the US Department of Energy. At WSRC, my responsibilities have included engineering support for storage and off-site shipment of



PCB fluid had leaked from this destroyed electrical transformer on Al Kut Airfield in western Iraq. All high-voltage electrical transformers were considered to have PCB contamination due to the age of the transformers.



This is one of the many UXO caches that was documented as part of completing the EBS for the MND.

hazardous waste, writing contracts for hazardous waste disposal vendors, and performing certification audits on prospective vendors. I am involved in the chemical and radiological characterization of radioactive waste destined for disposal at the Waste Isolation Pilot Plant in Carlsbad, New Mexico. While in Iraq, I used much of the formal training and field experience I gained at WSRC.

While in Arifjan, Kuwait, my detachment received its first tasked mission as a FED—to conduct an environmental baseline survey (EBS) for the base where we were stationed. An EBS establishes the baseline environmental “health” of any building, facility, or area scheduled for occupation by US Army and coalition forces for more than 30 days. The survey identifies environmental and health risks associated with the site and provides unit commanders with the information needed to avoid or reduce exposure risks. An EBS determines any obvious threats to human health and safety (such as unsafe structures, polychlorinated biphenyl [PCB] leaks, and loose asbestos) and documents preexisting environmental contamination on a site before its use by US or coalition forces.

The base, known as Logistical Support Area (LSA) Adder, in southern Iraq on the outskirts of An Nasiriyah, is located on Tallil Airfield, a former Iraqi Air Force Base. At that time, the 171st Area Support Group (ASG) operated LSA Adder.

As with projects in the civilian world, the EBS took more resources than my attachment could provide. Fortunately, the 520th Theater Army Medical Laboratory (TAML) was also stationed on LSA Adder. This unit had an extensive amount of laboratory equipment for analyzing soil and water samples. In addition, the base had an Air Force bioenvironmental section. Personnel from both of these units assisted with the EBS.

As part of the EBS, it was necessary to document locations of exploded and unexploded ordnance (UXO). The UXO—both Iraqi and US—left over from the first Gulf War littered the ground, often only a few feet apart. Either the Army or Air Force explosive ordnance disposal (EOD) teams took us to these areas. That is one situation that my civilian job had not prepared me for—walking through areas where there was UXO lying on the ground.

Part of the EBS process is to conduct a site closure survey for units that are departing a base. One of the first units to depart Tallil Airfield was a Patriot missile battery. Before the battery returned to the continental United States, they changed the fluids in their vehicles and segregated the waste into drums of used oil, antifreeze, and oily rags. They used a large building with a damaged roof to store the waste and to help protect it from the elements. This building was the first hazardous waste storage facility in the Iraqi area of operations. My detachment gained ownership of the building from the 170th ASG land manager. We tasked the 170th direct-support maintenance battalion to operate the facility. Drawing on previous experience with hazardous storage facilities, I wrote the standing operating procedure (SOP) for its operation and the waste acceptance criteria that units had to follow to transfer waste to the building. While most of the waste was common to maintenance operations, some of it was unusual, such as the spent photographic fixative from the X-rays processed at the South Korean hospital on the base.



Heavy industrial sites like this Iraqi tank and armored vehicle depot-level maintenance facility posed a great environmental risk, due to the lack of controls for disposing of hazardous chemicals.

At this time, there was no general CENTCOM directive on managing hazardous waste, which meant there was no high command guidance. Most of the maintenance personnel were using the same environmental practices that they followed in the United States. However, they ran into a problem because they had no destination for the waste.

An outgrowth of the Patriot missile battery maintenance program was the establishment of the petroleum, oils, and lubricants (POL) reutilization program. During the site environmental closure survey, the battery left behind its unused drums of POL products and other chemicals and fluids used in maintenance operations, and these materials became the starting point for our POL reutilization center. The departing units transported their unused POL products to this location so that remaining units could use the supplies.

People generally assume that Army engineers are familiar with all types of Army engineering. So it was with environmental work. I was called in a number of times as the resident subject matter expert for safety and industrial hygiene concerns. The first was when Tallil Airfield was still using burnout latrines (old 55-gallon drums). I was looking at the labels of two drums that were about to be cut in half with a cutting torch and noticed that one of the labels stated that the material previously contained in the drum was toluene diisocyanate. From my civilian training, I knew that any cyanate material was a health hazard. I stopped the cutting of the drum, looked up the material safety data sheet (MSDS) information on the drum, and discovered that the material produces toxic fumes when exposed to high heat, such as being cut with a cutting torch.

My experience with completing EBSs led to an assignment to a multinational division (MND) in Babylon for a month. The mission was to complete an EBS for each of the 12 sites where the MND forces were to be stationed. Along with completing the EBS, I was to write the environmental SOP for the MND. This was the hazardous materials/hazardous waste



This building had been slated for use as a laundry facility by Kellogg Brown & Root, Inc. (KBR) in support of the MND forces. The asbestos tile roof had fallen in and covered the floor. KBR was advised to use another building until proper asbestos cleanup could be done.

management policy that all the units under the MND would follow.

While there, I used the safety training that had been instilled in me at WSRC. The Savannah River Site originally had been built and run by DuPont, Inc.TM, which is a world leader in industrial safety, and WSRC adopted this tradition when it assumed the contract to operate the Savannah River Site.

One morning, I walked past a Marine maintenance shop where two young Marines were filling lead acid batteries with sulfuric acid. They did not have on safety glasses, gloves, or plastic aprons—standard personal protective equipment for this type of task. Although they were not in my chain of command, I remembered the old slogan, “Safety is Everyone’s Responsibility.” I went back and reminded them of the needed equipment, that they only had two eyes, and that I was sure they wanted to go home with both of them functioning. From the look on their faces, I could tell they knew what they were supposed to be doing and had been taking a shortcut.

As an environmental officer, you have to be prepared to be the on-scene expert on industrial hygiene and safety issues. The one item I would be more prepared for next time is to take a good set of technical references. If Internet services are not established, a hard copy is the only way to find the information to determine if a particular chemical is a safety hazard.

Though I was able to see a very different part of the world during my deployment, many of my duties were very similar to what I had been doing in my civilian job. This is one of the great strengths of the Reserve and National Guard system. Its members can bring to bear a great deal of previous expertise and experience during military operations. 

Major Jackson is the environmental officer for the Fort Jackson FET, Facility Engineer Center-Southeast, US Army Facility Engineer Group. His military experience includes active duty in Fort Knox, Kentucky; Fort Stewart, Georgia; and Fort Leonard Wood, Missouri. He has served in nonactive duty status for the Army National Guard in Newnan, Georgia; Edgefield, South Carolina; and Fort Mill, South Carolina. In addition, he has served in the US Army Reserve at Fort Jackson, South Carolina, and in his present position. As a civilian, he is the Senior Engineer A for Westinghouse Savannah River Company. He holds two bachelor’s degrees, one in range resources and another in chemical engineering.

