High-explosive ordnance detonates sequentially across the desert floor during ammunition demilitarization operations conducted by the 261st Ordnance Company under the supervision of the 788th Ordnance Company (EOD). (Photos by Capt. Amir Abuakeel)

Demilitarizing Ammunition in Support of Operation New Dawn

Lessons learned from the demilitarization of ammunition during the withdrawal from Iraq may be helpful for the drawdown in Afghanistan.

■ By Capt. Amir Abuakeel

The explosive ordnance disposal (EOD) field has experienced an exponential increase in size and visibility in the last 10 years. The reason for this increase is the enemy's reliance on the improvised explosive device (IED) as the weapon of choice against U.S. and coalition forces. The continued use of IEDs will likely require EOD units to remain focused on counter-IED operations.

Nonetheless, as the war in Afghanistan continues to drawdown, the EOD force will need to adjust some of its attention from the removal of IEDs, Soviet-era unexploded ordnance, and explosive remnants of war to the demilitarization of the NATO's munitions currently stored in theater. The lessons learned by EOD units in Iraq and Kuwait from 2010 to 2012 can serve as a basic tool for units currently deployed to Afghanistan.

EOD Mission

A great deal of attention has been cast on EOD's current primary battlefield function: the rendering safe of explosive hazards and the forensic exploitation of IED remnants. [Rendering safe is the process by

which ordnance items are made safe for transport or storage.] However, these were not always EOD's primary functions. When the field was created during World War II, EOD's purpose was twofold: the removal of unexploded ordnance in the form of dudded bombs and shells and the safe disposal or demilitarization of ammunition stocks, friendly and otherwise.

Demilitarization is the process by which the lethal nature of weapons and ammunitions are disabled. Although disposal and demilitarization are not synonymous, they are generally interchangeable when discussing ammunition. This is because munitions retain their destructive capabilities until their explosive components have been disposed of properly, either by detonation, burning, or chemical processes. Today, an EOD unit's mission essential task list still lists the demilitarization and disposal of class V (ammunition) as one of its core proficiencies.

In a garrison environment, demilitarization usually occurs after the quality assurance specialist, ammunition surveillance (QASAS), who is the chief ammunition specialist at an ammunition storage area (ASA), deems a particular lot of class V unserviceable. This happens after the QASAS has identified damage or has received a disposal directive for a particular Department of Defense

Clockwise from left: Explosive ordnance disposal Soldiers prepare 120-millimeter high-explosive antitank rounds for disposal. Several thousand pounds of Kuwaiti propellant burn across the desert floor; the heat created is intense enough to cause discomfort several hundred feet from the ignition site. A 788th Ordnance Company (EOD) Soldier douses small-arms ammunition with JP–8 fuel in preparation of an open burn operation.

identification code and lot number from the Joint Munitions Command, the life-cycle manager for all conventional munitions within the Department of Defense inventory.

The ammunition is labeled condition code H, meaning the items are condemned, expired, or uneconomical to repair. Afterward the ASA coordinates the transfer of the class V to a local EOD unit or higher level ammunition activity for disposal by open burn or open detonation (OB/OD).

This has been the normal demilitarization process for most code H ammunition since the end of World War II. With the introduction of new environmental mandates, closed disposal techniques (depot-level disassembly or closed loop incinerators) have gradually become the preferred demilitarization method in the continental United States, although OB/OD operations are still conducted on a reduced scale.

The Iraq Drawdown

As Operation New Dawn drew to a close, the Army began planning the removal of thousands of tons of ammunition from ASAs within Iraq. Initially, serviceable munitions were shipped to Kuwait and items deemed unserviceable or uneconomical to retrograde to the continental United States were transported to Forward Operating Base (FOB) Hammer where they were disposed of by OB/OD.

The Army contracted personnel to run the demilitarization at FOB Hammer at a cost of $10 million to $11 million per year. The rules of the contract required a throughput of roughly 80 tons of munitions a month in fiscal year (FY) 2010 and 100 tons per month in FY 2011. (Weights were based on safe shipping configurations.)

During FY 2010, the demilitarization operation in Iraq disposed of 970 tons of class V. However, during FY 2011, the disposal teams were only able to demilitarize 560 tons. The main reason for the shortfall was the curtailment of logistics operations following the collapse of the status of forces agreement talks between the U.S. and Iraqi governments. The

Smoke canisters are laid on high-explosive artillery shells before detonation. Used packaging materials are placed atop the explosives, ensuring their destruction.

abrupt end to negotiations required the military to end operations in Iraq and divert all remaining assets, including ammunition stocks, to Kuwait.

The end of disposal operations at FOB Hammer presented the Army with a problem. Expired and unsafe ammunition with no established disposal contract was piling up at supply points in Kuwait. To make matters worse, the Army was unaware of the amount of ammunition its units would bring out of Iraq. Although supplies in major ASAs were easy to track, a significant amount of ammunition was located at the unit level as a Soldier's or weapon system's basic load.

This problem was compounded by the accumulation of class V stocks by line units rotating in and out of Iraq over the years. The vast majority of this ammunition was passed to ASAs or EOD units during amnesty calls and never fully accounted for. Therefore, without an immediate method of demilitarization, the Army would incur serious physical risk and financial costs dealing with prolonged storage of large amounts of ordnance.

Kuwait Demilitarization Operations

U.S. Army Central and the 1st Theater Sustainment Command (TSC) identified a solution through the use of organic Army assets deployed to Kuwait. Under the new plan, ordnance identified for demilitarization was shipped to the ammunition supply point (ASP) at Camp Buehring in northern Kuwait. Once at Buehring, two ordnance companies, the 261st Ordnance Company and the 788th Ordnance Company (EOD), processed and disposed of the ammunition in the following manner:

- As the ASP's managing organization, the 261st received and processed the shipments and placed them in an area at the ASP designated solely for disposal operations.
- The 788th, with materials-handling support from the 261st and a platoon from the 1st Battalion, 34th Heavy Brigade Combat Team, repackaged the ordnance into specific loadouts on pallets or in triwall containers for disposal.
- The 261st loaded the pallets and a forklift onto several palletized load systems and transported the ordnance to a demolition site located at the Udairi Range Complex, west of Buehring.
- At Udairi, the 261st offloaded the ordnance and, under supervision from the 788th, arranged the ammunition into several disposal shots and detonated (or burned) them.

For nine months, from October 2011 through June 2012, the two companies managed the inflow of Code H ammunition. Initially the 788th was disposing of 100 tons per month. By the end of its disposal mission, the organization was capable of handling more than 350 tons per month. This rapid increase in capabilities greatly reduced the code H footprint in Kuwait but created a serious hurdle for the demilitarization operation with regards to ammunition accountability.

For obvious security reasons, ammunition accountability is a zero-defect operation. Initially, the 788th processed the disposal operation's associated paperwork. This included Department of the Army (DA) Form 581, Request for Issue and Turn-in of Ammunition, for ammunition received by the unit and DA Form 5692–R, Ammunition Consumption Certificate, for recording final disposition of the ammunition. Ammunition received by the unit was slated against specific document numbers released by the 1st TSC.

As the unit's operational capabilities grew, so did the paperwork, and more importantly, so did the number of open document numbers. Even with clerical assistance from the 261st, it became apparent that a bottleneck was developing.

To solve the issue, the 1st TSC assigned two military occupational specialty 89A ammunition clerks (an E–6 and an E–4) to the 788th. Their attachment gave the unit a trained and dedicated ammunition management section capable of reconciling ammunition receipts and consumption reports and freed EOD technicians to assist in the demilitarization, further increasing the unit's output.

By the time the 788th Ordnance Company's replacements arrived in June 2012, the company had processed 2,038 tons of U.S. ordnance and roughly 1,000 tons of Kuwaiti ammunition. This equated to a throughput of 340 tons of ordnance per month, three times greater than the contracted capability at FOB Hammer, providing a cost savings of $30 million to $40 million in averted demilitarization contracts.

The vast difference in capabilities can partly be explained by the 1st TSC's ability to leverage several key strengths inherent to the Army's mission in Kuwait, including the stable security environment, developed logistics system, and surplus military manpower. And while most of these characteristics are in short supply in Afghanistan, the basic lessons learned after Operation New Dawn can serve as a rough template for demilitarization operations on large military bases in Afghanistan.

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