



EOD and Engineers “Close the Gap”

By Lieutenant Colonel Craig Jolly

“The artificial separation between explosive ordnance disposal (EOD) personnel and combat engineers MUST end. . . combat engineers will deal with unexploded ordnance (UXO) whether we want them to or not. . . just a matter of inadequate EOD troops to the UXO task. This is a structural deficiency that it is imperative for us to fix.”

*Brigade Commander
3d Infantry Division, Iraq*

Today’s construct for operating in explosive hazards (EH)-contaminated theaters fails to provide maneuver commanders the freedom of action to accomplish missions effectively in the contemporary operating environment (COE). The problem has many aspects: an EOD construct based on Cold War doctrine, an enemy able to press home an asymmetric advantage through the gap caused by this doctrine, and a world increasingly filled with EH. Many would say that an easy fix is to transfer proponentry for EOD to the Engineer Regiment. However, ownership does not correct the root causes of the problem, which are a lack of integrated EH planning and a graduated response to EH contamination. On 1 September 2004, the Commanding General of the US Army Training and Doctrine Command (TRADOC) approved a solution—hammered out over an 18-month period by the Ordnance and Engineer Branches—to bridge the EH capability gap. In order to understand the solution, we must first examine the problem and its causes. This will provide a framework to outline the approved course of action that will provide assured mobility to the force in an EH-contaminated environment.

Background

After the Vietnam War, the focus of the US Army was the conduct of operations on a linear battlefield, against a peer or near-peer adversary. The operational synergy developed between the Engineer and Ordnance Branches for the conduct of EOD operations during the Vietnam era eroded as the Engineer Regiment concentrated its attention on breaching linear obstacle belts.¹ This approach created a mobility support architecture that was effective during the Cold War but is dysfunctional in relation to the assured mobility concept developed for current operations. This gap is illustrated in Figures 1 and 2.

The US Army Legacy Force (now known as the Current Force) was developed to counter the Cold War threat. The Vietnam-era requirement to clear explosive ordnance (EO) for safety and immediate tactical movement is no longer trained due to the doctrinal approach of warfighting that was developed in the 1980s. The art of disrupting booby traps and UXO clearance has eroded to the point that no institutional knowledge exists in the Engineer Regiment. An example of the current asynchronous environment is the conduct of area clearance operations in Afghanistan, which have been slowed dramatically by the requirement for EOD technicians to deal with each item of UXO encountered.² Clearing mines and booby traps is the responsibility of engineers, providing they have been trained. However, engineer elements have not been trained to complete the entire task of UXO clearance.

Currently, engineers can be called on to reduce or clear nonmine UXO hazards, on a limited basis, under the direct technical guidance of EOD forces.³ The current paradigm is that direct technical guidance requires the direct supervision of an EOD technician. However, sending a highly trained EOD technician forward to deal with a mortar round or simple blast mine is analogous to sending a brain surgeon to stitch a finger. It is clear that just as calling for indirect fires is a task shared by forward observers and infantry section commanders, certain aspects of EOD should be shared tasks on the battlefield. Since close combat in tunnel systems, booby trapped weapon caches, and military operations in urban terrain (MOUT) over a dirty battlefield are now the reality—and the doctrine exists to enable engineers to conduct limited UXO clearance—why is there a problem?

In the early stages of both Operations Enduring Freedom and Iraqi Freedom, the assets allocated to conduct mobility support tasks were not adequate in quantity or coordinated in time and space to adequately meet the maneuver requirements.⁴

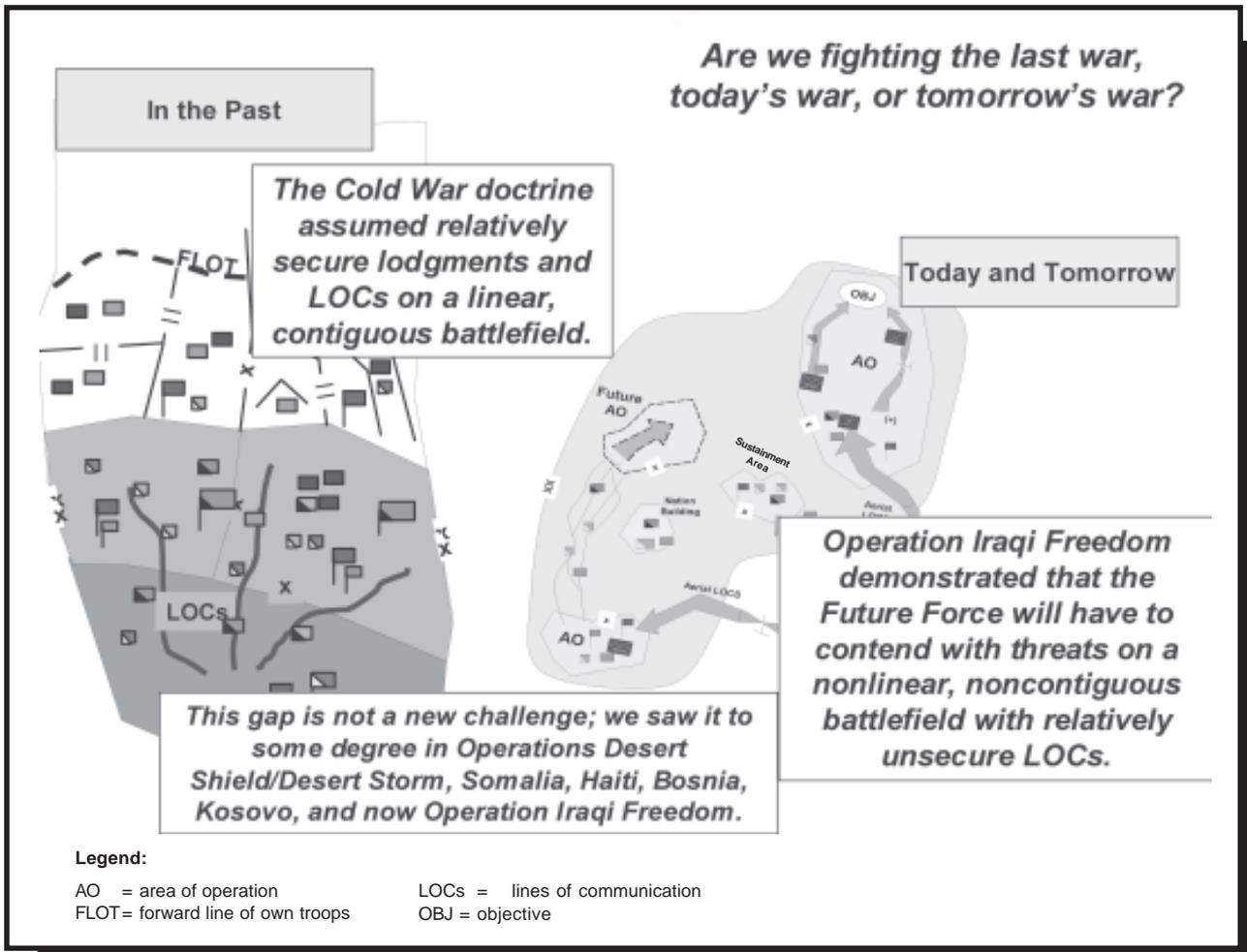


Figure 1. The Gap

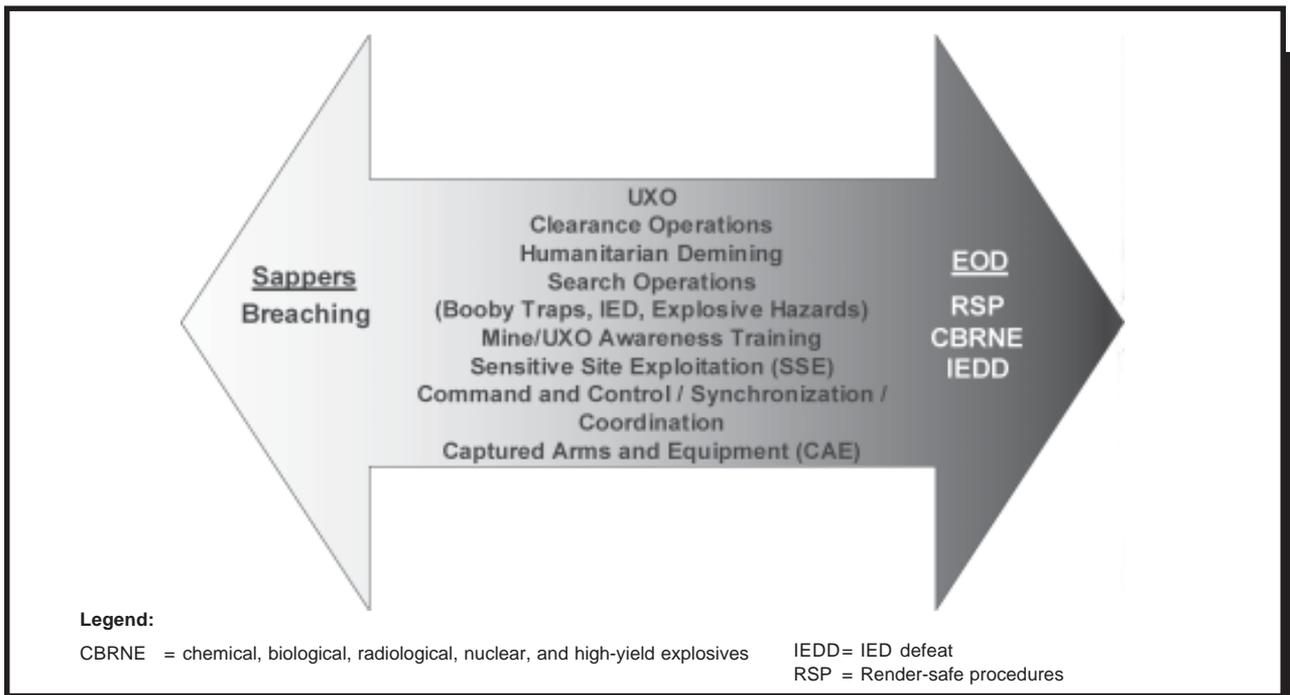


Figure 2. Interpretation of the Gap

As limited EOD assets were held at the highest levels, maneuver commanders were faced with the decision to either sacrifice tactical and operational momentum for safety or use their embedded assets to get on with the job. When these tasks were performed as part of an operation to maintain operational areas (for example, route or area clearance operations), clear coordination of the engineer and EOD effort was required. But without embedded EOD planning staffs, this did not occur. This can be directly attributed to EOD personnel not being integrated into the planning process, and it is considered to be the cause of the perceived lack of responsiveness of EOD personnel⁵ and the EOD-engineer tension in theater.⁶

The Solution

On 19 March 2004, the Chief of Staff of the Army (CSA) directed TRADOC to investigate the advisability of assigning proponentcy for EOD to the US Army Engineer School. The possibility of this had already been under consideration for more than 12 months by an EOD-engineer working group cochaired by the Ordnance and Engineer Schools. It was determined that a simple change of proponentcy did not address the root cause of the problem—a dysfunctional planning process combined with an EH reduction construct based on Cold War doctrine. The integration of EOD planning into the mobility/countermobility/survivability (M/CM/S) Battlefield Operating System (BOS)—combined with the development of a complementary set of EOD and combat engineer skills to deal with EO—had already been identified as the appropriate solution.

To counter the threat, EOD capabilities must be integrated among the various units participating in any operation.⁷ Doctrinally, it appears that this issue is clear-cut.^{8,9,10} Organizationally and operationally, this planning does not occur adequately and is based more on the personality of the EOD commander. The integration of this capability into the M/CM/S BOS is imperative; otherwise, command, control, coordination, and synchronization of capabilities cannot be achieved. The first step to bridging the gap is to synchronize EOD capabilities on the battlefield, ensuring uninhibited mobility in order to maximize combat power at the decisive time and place.¹¹ Organizationally, this is to be achieved by the establishment of EOD staff cells combined with the establishment of explosive hazards coordination cells (EHCCs)¹² and explosive hazards teams (EHTs)¹³ within the Engineer Regiment to apply the appropriate effects on the battlefield.

EOD could be synchronized through the M/CM/S BOS by—

- Developing a common operational picture (COP) through an understanding of EH and their effect on maneuver, combined with predictive analysis to identify probable contaminated areas.
- Selecting, establishing, and maintaining operating areas through avoiding or reducing EH.

- Attacking the enemy's ability to influence operating areas by synchronizing EO clearance capabilities on the battlefield to mitigate risk and reduce EH in areas we wish to operate.
- Maintaining mobility and momentum through the provision of the right level of EOD support for breaching and UXO clearance operations.

How these staff cells are to be integrated with the M/CM/S BOS is depicted graphically in Figures 3 and 4.

While it is clear that the M/CM/S planning capability must be rectified, training must also be conducted to tackle the functional gap between EOD and engineers. As the COE is not characterized by the United States having a peer adversary, enemy forces must use asymmetric approaches to negate US superiority. The second component of the solution is the establishment of an EH-reduction construct to provide a graduated response on the battlefield. A truly graduated response requires the force to deal with EH, within its limitations, at each level and is analogous to the soldier-combat medic-doctor-surgeon construct for the treatment of casualties. The current capability set is outlined below:

Warfighter. The warfighter must be able to identify and react to UXO and react to IEDs.

Explosive ordnance reconnaissance agent (EORA). An EORA can be trained by an EOD company, on request, and is responsible for “the investigation, detection, location, marking, initial identification, and reporting of suspected EO, in order to determine the need for further action.”¹⁴ Although an EORA Course has been developed, there has been an extremely limited number of individuals trained. This capability is very similar to the Explosive Hazards Awareness Training (EHAT) conducted by the Counter Explosive Hazards Center at the Engineer School, which is given to deploying engineer units and other selected individuals as part of their predeployment training. This capability is considered to be the next level in the continuum.

EOD technician. An EOD technician is capable of “the detection, identification, field evaluation, rendering-safe, recovery, and final disposal of UXO. It may also include the rendering-safe and/or disposal of EO which has become hazardous by damage or deterioration, when the disposal of such EO requires techniques, procedures, or equipment which exceed the normal requirements for routine disposal.”¹⁵

Bridge to the EH Capability Gap

It is the delta between the highly trained EOD technicians (who conduct both the rendering-safe and disposal of munitions), the EORA- or EHAT-trained soldiers (who conduct recon-naissance), and the Engineer Regiment's current capability that is the functional gap in the current EH construct. To fill this gap, a needed skill has been identified—an explosive ordnance clearance agent (EOCA)—and the new construct is depicted graphically in Figure 5, page 44. An EOCA is an

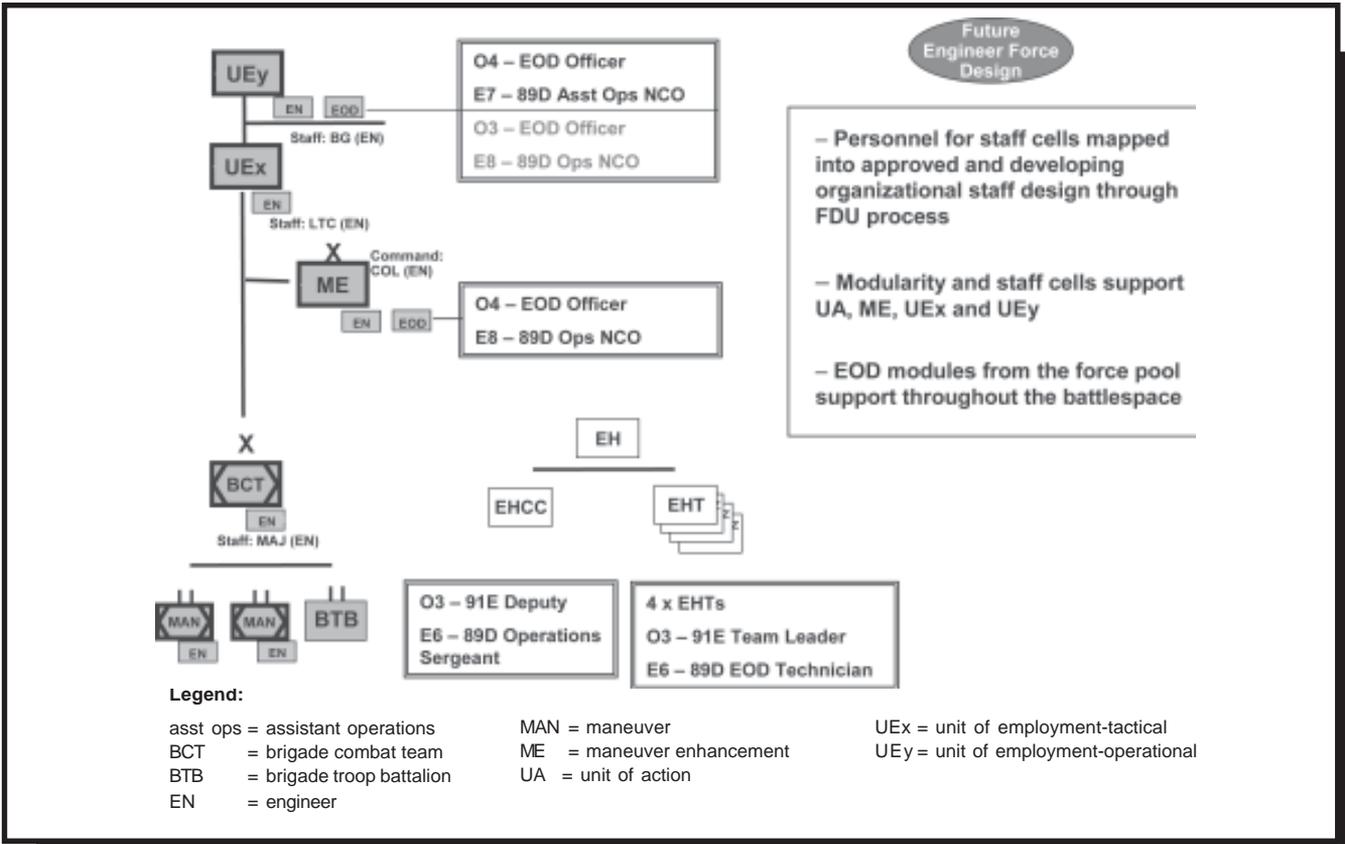


Figure 3. EOD Staff Integration

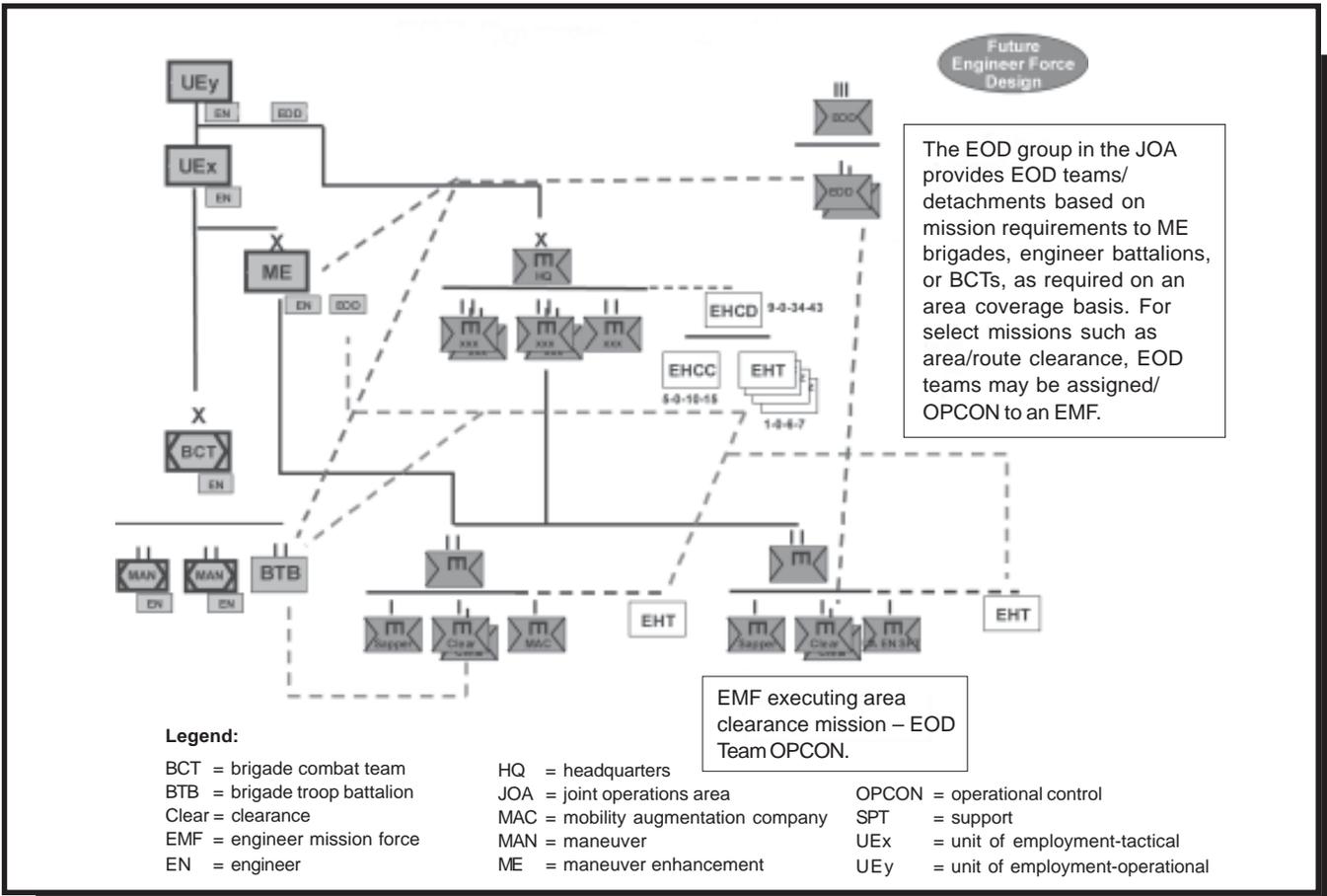


Figure 4. EOD Coverage in the JOA

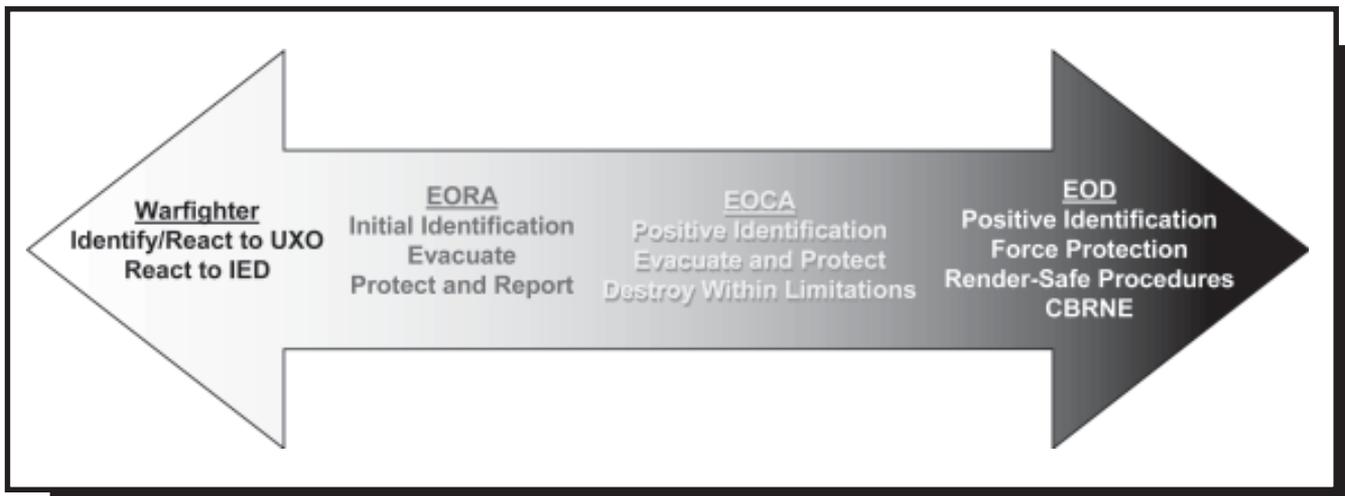


Figure 5. Approved Explosive Hazards Reduction Construct

engineer with an additional skill identifier (ASI), who is capable of investigating, detecting, locating, marking, reporting, and preparing protective works for UXO. EOCA skills also includes the disposal in place—when authorized by the EOD staff cell—of UXO identified in draft Technical Manual 093-89D-02, *Explosive Ordnance Clearance Manual*,¹⁶ and theater-specific UXO, after risk analysis and positive identification.¹⁷

Assured Mobility

So how does this tie to assured mobility? Assured mobility is the Engineer Regiment’s cornerstone doctrine and outlines how the Regiment interacts with other BOSs and supports maneuver on the battlefield. The assured mobility concept requires engineers to be capable of integrating EOD capabilities into their operations to reduce EH in the battlespace in order to provide force protection and tactical mobility to the maneuver force. This is based on intelligence and integrated EOD planning and results in the right EH-reduction effect—coordinated in time and space—available to the maneuver commander for the conduct of operations. This facilitates tactical maneuver and immediately reduces the risk to the force from EO. When planned correctly, the maneuver commander is provided with an immediate measure of force protection and the capability of making an informed decision to either—

- *Ignore the threat* and continue the operation, accepting the potential consequences.
- *Avoid the threat* by diverting the operation and accepting the disruption to the plan.
- *Destroy the EO in place*, using his embedded engineer asset or allocated EOD element, which may impose a temporary halt to operations but decrease the risk to the force.
- *Remove the EO*, on advice from an EOCA or EOD personnel, if it is safe to do so.

- *Render-safe the EO*, if it poses a significant risk to the force, then remove for safe disposal. This option will impose the greatest time delay and will require the deployment of specialized EOD resources.

This approach has been accepted and approved by the Commanding General of TRADOC. A pilot Explosive Ordnance Clearance Course was conducted in Afghanistan in early 2005, and the first course at Redstone Arsenal, Alabama, began 1 March 2005. EOD planning cells are established in theater and will be expanded in concert with the developing EO clearance capability.

Conclusion

Engineers are on the battlefield now, destroying mines and UXO to meet operational requirements. They are meeting this operational necessity with minimal training in mine warfare and none in UXO clearance. Operations Enduring Freedom and Iraqi Freedom provide clear indications as to the types of environment in which US forces are likely to conduct operations in the future and signify the detrimental effect on the mobility and tempo caused by a lack of integrated EOD planning.

Given the amount of high-tech ammunition used by coalition forces, EO clearance is a priority force protection issue now. The conduct of EO reconnaissance and in situ disposal of UXO is essential to protect the force and provide freedom of maneuver to the commanders on the ground. To meet this challenge, the force requires a multiskilled soldier who is capable of facilitating mobility and providing immediate force protection and EH reduction advice. This must be combined with the development of habitually associated EOD planning cells to synchronize the EOD effect at all levels. This serves to coordinate EOD effects on the battlefield, fully enable the EOD component of the force, and focus the efforts of the

EOD technicians to where they are most required—dealing with complex weapons that pose a high threat. EOD personnel and engineers must maintain a set of different, but complementary, skills to assure the mobility and protection of the force. Today’s construct for operating in EH-contaminated theaters fails to provide maneuver commanders the freedom of action to accomplish missions effectively in the COE. However, tomorrow’s construct will not only “close the gap” between EOD and engineers, it will close the gap that our enemies have been exploiting and save the lives of soldiers.


Lieutenant Colonel Jolly is an infrastructure project manager with the Australian Defence Organisation (ADO). He was previously the chief of the Engineer Command and Staff Course Division at the US Army Engineer School, Fort Leonard Wood, Missouri. He has served in a wide variety of engineer command and training assignments within the Australian Army. Command appointments include both the 35th Field Squadron and 23d Support Squadron, and his instructional appointments include a posting to the School of Military Engineering, where he served as the course manager for both the Regimental Officer Basic and Advanced Courses. He is a graduate of the Royal Military College-Duntroon and the Australian Command and Staff College. He holds a master’s in management and defence studies from the University of Canberra.

Endnotes

¹ Major Craig Jolly RAE, US Army Engineer School “Closing the Gap” White Paper, March 2003.

² Interviews with Major Mark Griffin RE and WO2 Tony Quirk RAE from the Countermine/Counter Booby Trap Center (now the Counter Explosive Hazards Center), US Army Engineer School, Fort Leonard Wood, Missouri.

³ Field Manual (FM) 3-100.38, *UXO Multiservice Procedures for Unexploded Ordnance Operations*, 23 August 2001, Chapter III, p. 2.

⁴ Every commander commented on the requirement for a greater synchronization of EOD/engineer activities to provide assured mobility and force protection during the Operation Iraqi Freedom Engineer After-Action Review conducted in Baghdad, May 2003. Source after-action review video viewed by the author 12 May 2003.

⁵ On many occasions, EOD personnel were conducting higher-priority tasks. However, this was not evident to lower echelons of command because there was no command and control or communication established to facilitate this flow of information.

⁶ Engineer/EOD conference “Closing the Gap,” Redstone Arsenal, Alabama, 9-11 December 2003.

⁷ FM 9-15, *Explosive Ordnance Disposal Service and Unit Operations*, 8 May 1996, pp. 1-2.

⁸ FM 7-15, *The Army Universal Task List*, 31 August 2003. Chapter 5 – The Mobility/Counter mobility/Survivability Battlefield Operating System, outlines the following: ART 5.3 Conduct Survivability Operations – ART 5.3.4 Provide Explosive Ordnance Disposal Support. 5-49. Neutralize domestic or foreign conventional, nuclear, chemical, and biological munitions and improvised devices that present a threat to military operations and military civilian facilities, materiel, and personnel, regardless of location.

⁹ CJCSM 3500.043, *The Universal Joint Task List*, 1 July 2002, does not mention EOD tasks except under SN 1.1.4 Provide for En Route Support and Clearances – Determine the need for EOD support.

¹⁰ FM 9-15, pp. 1-2.

¹¹ Ibid.

¹² The EHCC has a similar role as the Mine and Explosive Ordnance Information Coordination Center (MEOICC), which is currently deployed on Operation Iraqi Freedom and has integrated EOD planners.

¹³ An EHT is deployed with clearance modules and provides technical advice and assists in planning clearance operations. In peacetime, this organization is also responsible for training, sustaining, and certifying EOCAs.

¹⁴ Army Regulation 75-14, *Interservice Responsibilities for Explosive Ordnance Disposal*, 14 February 1992, p. 1.

¹⁵ Ibid.

¹⁶ This manual is being developed by the Ordnance School, based on generic munitions, and will be supplemented by theater-specific addendums as authorized by the theater EOD staff cell.

¹⁷ This definition is to be articulated in all EOD-related doctrine.

