Explosive Hazards Team:

Concept, Employment, and the Way Ahead

By Captain Glen A. MacDonald

The United States Army is better prepared for contingency operations today than ever before. What was a rigid Cold War-era formation only eight years ago is now a modular force capable of tailoring combat "packages" to the specific needs of an operation. The Engineer Branch has historically provided one of the most diverse skill sets to combatant commanders. Through its transformation to a modular force, this skill set has grown in scope and functionality. The Engineer Branch remains an example of doctrinal adaptation and change. Engineers can be proud of the branch's efforts to modify the force—specifically at the company level—where combat engineers specialize in a number of new formations such as mobility augmentation, clearance, and sapper companies. However, the establishment and employment of formations such as the facility engineer team, explosive hazards coordination cell (EHCC), and explosive hazards team (EHT)—all captured in revised engineer doctrine—lag behind doctrine and original intent.

The EHT—one of the newest, smallest, and most misunderstood units on the battlefield—has groundbreaking functions and doctrinal capabilities for the Engineer Branch and the Army's modular capability as a whole. The EHT combines explosive ordnance disposal (EOD) and engineer capabilities into a single entity for the first time. However, although the concept of fusing EOD and engineer capabilities remains valid, the teams are not being properly employed in Iraq. This article addresses the original EHT concept as captured in doctrine, describes how the teams are currently employed, explains why they are not being used doctrinally, and concludes with recommendations for the future. The Engineer Branch must make some serious decisions about the EHT before time runs out on the concept.

Original EHT Concept

As early as 2003, the Engineer and Ordnance Branches began formulating plans for the EHT .through the Fort Leonard Wood, Missouri, EOD Fusion Cell. As the improvised explosive device (IED) threat continued to skyrocket in Operation Iraqi Freedom, the EHT concept slowly crystallized, ultimately being captured in doctrine and published in 2007.

A pair of field manuals provided early guidance and insight into the conduct of an EHT. Published in a race to keep doctrine relevant to ongoing combat operations, the documents do not provide the detail expected of United States Army doctrine. In fact, due to discrepancies in the discussion of EHTs, the manuals may prove more confusing than helpful. However, the reality of the fight necessitated action, and the new manuals, even if flawed, lay the conceptual groundwork for an EHT. Teams were needed, and in 2007 the first EHT was born.

The EHT is a modular group organized under an engineer battalion headquarters in garrison and employed primarily at brigade level and below in combat operations. It can be organized at other echelons of command based on—

- Maturity of the theater.
- Explosive hazards threat.
- Counter-IED (C-IED) operations.
- Route clearance operations.

Employed at any level, it functions as the first doctrinal fusion of EOD and engineer effort. Slots on the team are filled by Soldiers with EOD and engineer military occupational specialties. This is not the first time Soldiers of these two skill sets have worked together, but it is the first time such a relationship has been codified in doctrine. This combination of skills would allow the team to meet some unique needs and fill capability gaps identified during the War on Terrorism.

In an immature theater, there is significant need to catalogue ammunition supply points (ASPs); major cache sites; explosive hazard trends; and subsequent clearance, reduction, and mitigating tactics, techniques, and procedures (TTP). The EHT plays a significant role in filling this gap, acting as the eyes and ears of an EHCC (another new organization) as it builds and manages a comprehensive theater explosive hazards database. Both organizations, working together, play a crucial expeditionary role in this responsibility. However, in a more mature theater such as Iraq in 2009, the EHT role crystallizes around support of the C-IED fight at the engineer battalion level of command and control.

Historically, engineer route clearance operations resulting in an IED find and EOD actions at the site are at opposite sides of a capability gap where these linked activities are not efficiently synchronized. Engineers who find an IED while clearing routes regularly must wait for

EOD response, and it became obvious to both communities that there must be a smarter way of doing business. This theater-specific disconnect between two branches involved in the C-IED mission is the second major gap the EHT was designed to fill.

EHT employment, manned jointly by engineer and EOD Soldiers as called for in doctrine, would reduce time on target for route clearance, EOD, and maneuver security personnel at IED find sites. It would provide concentrated explosive hazard collection capability for IEDs, caches, and ASPs through liaison with an EHCC. And finally, engineer and EOD Soldiers would be cooperating as equal parts of the solution to a tactical problem. These were the great intentions behind the creation of this new capability within the Engineer Branch. However, due to the long fielding process, friction between the Engineer and Ordnance Branches, and a lack of theater understanding of the EHT concept at the time of its arrival, this capability has yet to be realized and may already be destined to fail.

School and Experience Requirements for Explosive Hazards Team Members

Schools (Fort Leonard Wood)						Schools (Iraq, Kuwait)			Previous Combat Experience		
Explosive Ordnance Clearance Agent	Route Reconnaissance and Clearance Course-Sapper	Counter Explosive Hazards-Planner	Improvised Explosive Device Defeat-Train the Trainer	AN/PSS-14 (Mine detector)	Search	Electronic Warfare Officer (EWO)	Task Force Iron Claw Academy (TFICA)	Route clearance patrol	Patrol	Explosive hazard disposal	Cache search

Figure 1

Building the First EHTs. In the summer of 2008, the 8th Engineer Battalion, 36th Engineer Brigade, Fort Hood, Texas, was notified of an unprecedented deployment mission: The battalion headquarters would deploy to Iraq as an EHCC. The EHCC was a doctrinal engineer organization, but since none had been manned or established, the mission was assigned to an engineer battalion for execution. In addition to the EHCC mission, the battalion was directed to stand up four EHTs and would deploy the "bridging" form of both organizations to pave the way for actual EHCCs and EHTs in the future. As deployment neared, it became more and more obvious how different the bridge would be from the original concept.

The EHT was meant to embody the first true battlefield fusion of route clearance and EOD. However, it quickly became apparent that no EOD officers or technicians would be assigned to the teams. Instead, the EHTs were being built entirely of combat engineers from the battalion and maintained as excess personnel for the duration of the deployment. By the end of 2007, the battalion had a training plan in place and Soldiers slotted to fill four EHTs. The actual mission was still unknown, but the battalion pushed forward as deployment approached.

To support the new requirement of deploying specialized teams without EOD personnel, a comprehensive set of training and experience requirements was established for team members (see Figure 1). The closest an engineer can get to the unique skill set of an EOD technician is through the Explosive Ordnance Clearance Agent (EOCA) Course at the United States Army Engineer School at Fort Leonard Wood. This course is taught by Ordnance Branch instructors and improves the capability of route clearance engineers through exposure to EOD fundamentals, including—

- Munitions identification.
- Interrogation techniques.
- Limited explosive hazards disposal procedures.

Ideally, each team would have at least one EOCA-certified member. Other courses, such as Route Reconnaissance and Clearance Course–Sapper (R2C2–S), Counter Explosive Hazards–Planner, and IED Defeat–Train the Trainer (IEDD–T3) were also encouraged for team members.

In addition to home station training, theater-specific classes and previous combat experience were expected prerequisites to membership on a team. The 8th Engineer Battalion established the first EHT "Road to War" timeline (see Figure 2, page 20). Despite rigorous training and the previous experience of team members, EOD personnel were needed to close the capability gap. However, events on the battlefield conspired to keep them from joining the EHTs.

EOD in Play. In 2003, EOD fully supported the EHT concept, but things in Iraq had changed over the five years it took the Engineer Branch to man, equip, train, and employ the teams. Ever-increasing levels of insurgent and IED activity between 2003 and 2008 called for quick action on the ground. While the Engineer Branch worked through the process of updating doctrine in advance of force structure changes, the Ordnance Branch made more immediate theater-specific changes in lieu of a doctrinal solution. It increased the overall end strength of EOD personnel in-theater and embedded them with route clearance teams in high-threat areas. Though not the doctrinal solution envisioned by the Engineer Branch in the EHT, it was an answer to a theater-specific problem that was executed quickly with positive results. Engineers and EOD technicians were working together as equal components of a serious C-IED fight. In the view of the Ordnance Branch, the EHT was no longer relevant, so no EOD personnel would be provided to support the first EHTs.

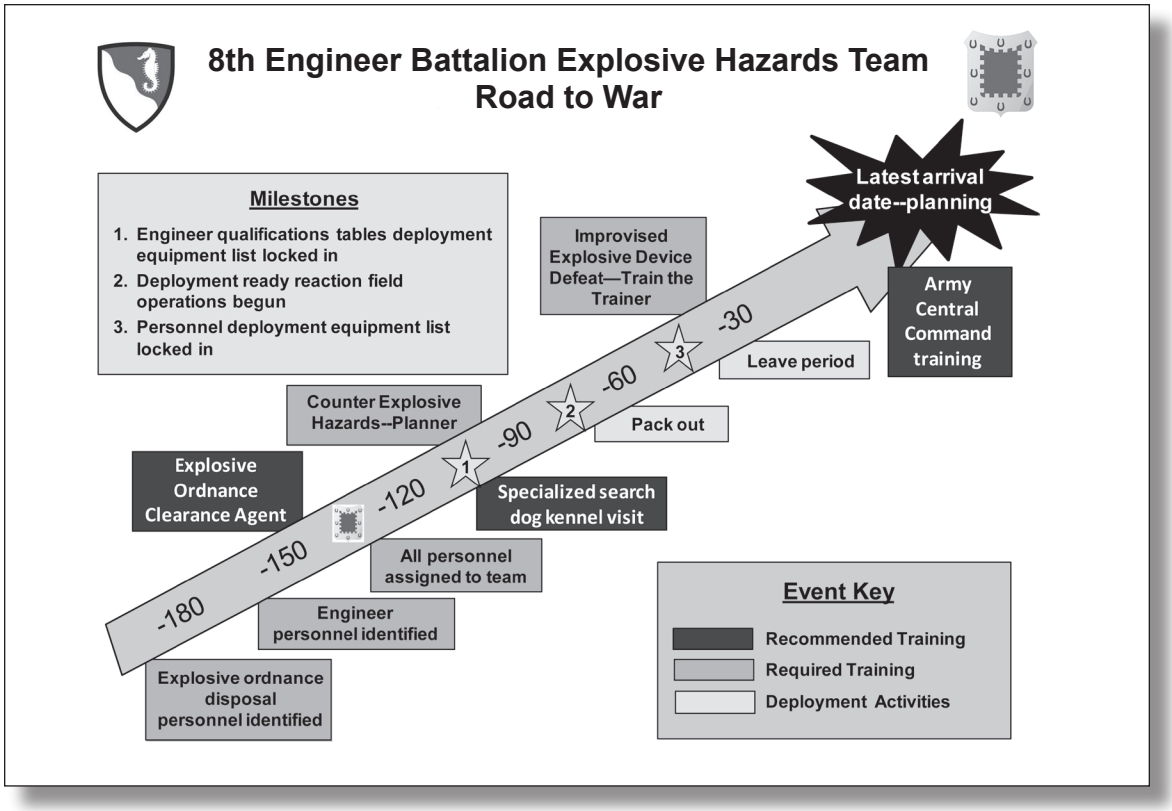

Figure 2

Theater Solutions for Engineers. The Ordnance Branch was not alone in developing theater-specific solutions. In 2007, the Engineer Branch implemented training that capitalized on courses such as EOCA and R2C2–S, focusing engineers on blow-in-place (BIP) procedures. BIP implementation varies, but the general concept has received fairly widespread acceptance. This engineer solution, when paired with Ordnance Branch solutions, gave more weight to the EOD assertion that the EHT was no longer relevant.

EHTs in Iraq Today

When the 8th Engineer Battalion arrived in-theater in June 2008 as four EHTs and an EHCC, members were immediately plucked from their teams to fill slots in the Multinational Corps–Iraq engineer staff (C-7) and Task Force Troy, a theater-specific unit charged with managing the C-IED fight (see Figure 3). Other EHT personnel were diverted to fill corps staff positions within the C-7 and future operations sections. A full EHT was placed in an oversight and instructor role for theater-specific R2C2–S training in Baghdad and Kuwait. None of the teams would be employed as an EHT for the next ten months.

Initial EHT Employment. By necessity, units and staffs must adapt to theater needs as the environment dictates. However, it is troublesome that the Engineer Branch would man, equip, train, and deploy units only to have them

Initial Explosive Hazards Team Personnel Employment in Iraq (June 2008)

(Doctrinal employment not fully realized)

Working for Combined Joint Task Force Troy (not employed by explosive hazards coordination cell)

- **Provide trainers (subject matter experts) for:**
  - **Counter improvised explosive device level 1, 2, and 3**
  - **Intermediate search courses (ISE)**
  - **Intermediate threat area search (ITAS)**
- **Work with explosive ordnance disposal technicians to improve explosive hazard awareness courses**
  - **Input from Combined Joint Task Force Troy and Multinational Corps–Iraq engineer staff section explosive hazards coordination cell**

Working for engineer staff section (explosive hazards team officers in charge)

- **Infrastructure protection and reconstruction staff**
- **Future operations staff section**
- **Other (Route Reconnaissance and Clearance Course--Sapper, blow in place [Iraq and Kuwait])**

Figure 3

sliced up for individual manning requirements. Being deployed as they were, without the key EOD capability, raises the question of whether EHTs were established to serve their doctrinal purpose in Iraq or if they were merely intended to fill a personnel requirement. However, by March 2009, it was possible to reestablish one of the teams (dubbed the 1st EHT Minotaurs) and prepare for a proof-of-concept mission. It acquired property such as weapons, robots, and a mine-resistant armor–protected (MRAP) vehicle; conducted refresher training on driving, crew drills, and Blue Force Tracker; and performed other troop-leading procedures to prepare for the mission. The team had to brush off ten months of cobwebs to gear up for the first real test of the skills they were deployed to use. There was much to do.

Before launching the proof of concept, intensive work by the battalion commander and staff was required to determine what this new team would actually do. The team was supposed to be a fusion of engineer and EOD capabilities, but the Engineer Branch had not provided any insight into what team employment should look like without EOD members. Now a team was about to execute an untried mission without an excess of guidance. Figure 4 represents the final 8th Engineer Battalion template for EHT functions. Without EOD specialists, the team's ability to execute these functions would be significantly degraded, but the proof of concept would move forward. It could determine the feasibility of employment without the requisite manning.

Explosive Hazards Team Functions

Tactical
- Provide route clearance team (RCT) explosive ordnance clearance agent/explosive ordnance disposal augmentation
- Execute limited site evaluation
- Execute limited explosive hazards disposal

Staff
- Provide updates to the joint operational area unexploded ordnance supplemental list (primary skill set inherent to explosive ordnance disposal personnel)
- Assist with explosive hazards analysis and targeting
- Liaise with operations and training section, intelligence section, counter improvised explosive device/improvised explosive device-defeat cell and explosive ordnance disposal at battalion/brigade level
- Provide explosive hazards product development assistance/expertise
- Provide updates to the explosive hazards database (Combined Information Data Network Exchange)

Training
- Provide explosive ordnance clearance agent-specific training on updates to the joint operational area unexploded ordnance supplemental list
- Execute military training teams in support of the latest explosive hazards tactics, techniques, and procedures and equipment fielding

Figure 4

Proof of Concept. In April 2009, the 1st EHT linked up with an engineer company that had been conducting clearance operations in-theater for nearly a year. As operators in a mature operational environment, Soldiers from this company would provide excellent feedback on how the EHT could augment the company in its clearance, C-IED, and counter explosive hazard fight. Equally important was whether this company saw any value in having an EHT at its disposal. This would depend on whether a small group of combat engineers would bring an additional skill set to the fight.

Doctrine Requires EOD Personnel

The EHT immediately began integrating with route clearance teams and embedding with them on missions. Senior EHT members engaged with the company tactical operations center to discuss capabilities, reporting procedures, and intelligence-gathering tech-niques. Every effort was made to find a niche and bring to the fight the special qualities that the Engineer Branch had envisioned in an engineer-only EHT. But soon it became apparent that the EHT did not have any skill sets or capabilities that were not already present in the company. A small number of extra combat engineers did not seem to offer any real benefit on the ground. Despite signs that led the EHT and its supported company to question EHT validity early on, the team pressed forward with the proof of concept. Substantial time and effort were expended in search of engineer-only EHT validity, but a concept can only be tried unsuccessfully in combat for so long before risk begins to outweigh an intangible benefit. The EHT was becoming nothing more than a distraction.

Members of the EHT and the engineer company agreed that the team, manned by combat engineers alone, brought nothing to the fight that a company of combat engineers didn't already provide. However, all parties agreed that the original vision of fusing engineer and EOD capabilities would break ground in battlefield capability. The question on everyone's mind was why the team was being employed without EOD members. The proof of concept clearly demonstrated the inadequacy of an EHT without them. Although it was short-lived, the first EHT mission served the crucial purpose of invalidating the assumption that an all-engineer EHT had a place on the battlefield. Members of all four EHTs continue to serve throughout the Iraq theater of operations in engineer capacities outside the scope of their original deployment orders.

Perhaps the most distressing aspect of the all-engineer team's shortcomings is not what is happening in Iraq right now but what is happening in garrisons across the United States. EHTs are now in different stages of being stood up as numbered units that will soon deploy to replace the current EHTs. The teams are asking what their task, purpose, mission, and mission-essential task lists (METLs) are. Manned by combat engineers alone, without the doctrinal inclusion of EOD personnel, the answers are decidedly unknown.

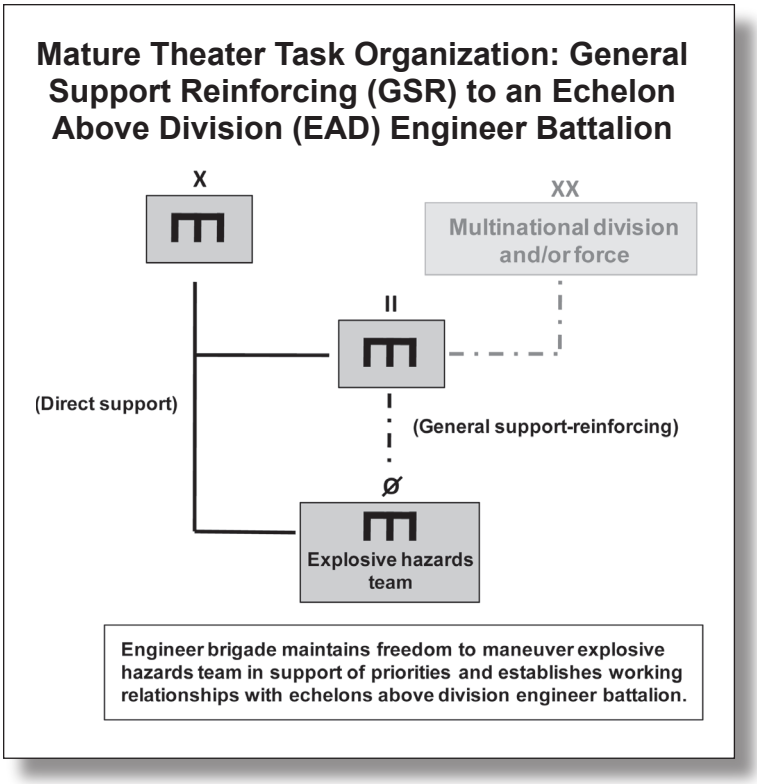

Figure 5

Recommendations

Manning. EHTs must train and deploy with EOD personnel, according to doctrine. The EHT, as a fusion of EOD and engineer effort and capabilities on the battlefield, requires the personnel authorized by its modified table of organization and equipment (MTOE) in order to execute its doctrinal mission. Without adherence to this principle, the EHT will continue to be ineffective, lending itself to misuse in filling manpower gaps.

Task Organization. The EHT is designed to task-organize in "support of brigades, brigade combat teams, and joint interagency multinational brigade-size units and smaller." This makes great sense for an expeditionary team supporting contingency operations in an immature theater. The immature theater is where the EHT functions of explosive hazards site analysis and explosive hazards database updating play a significant and necessary role. Through liaison with a theater EHCC, acting as primary database manager, the EHT acts as the eyes and ears in cataloguing ASPs; major caches; explosive hazards trends; and subsequent clearance, reduction, and mitigating TTP. Ultimately, the EHT can act in a management capacity, providing oversight to contract reduction of ASPs and minefields.

Task organization for employment along these lines fits the MTOE-dictated relationships above—organized in support of brigade-size headquarters, with established liaison to a theater EHCC. However, the constructive use of EHTs in a mature theater requires a different command support relationship.

The need in Iraq today for ASP, minefield, cache, and explosive hazards trend cataloguing to be executed by a new entity is negligible. Theater-specific systems are in place, and coalition involvement in munitions clearance operations is drawing down. Consequently, the EHT is now free to function in a more direct support capacity in the C-IED fight at battalion level and below. Figure 5 represents the most advantageous organization of EHTs while maintaining freedom of maneuver through the theater engineer brigade, which must leverage EHTs in relationship to threat and the explosive hazards environment on the ground. Done effectively, this will provide an engineer battalion commander with additional capability in prosecuting the C-IED/explosive hazards fight within his operational environment.

Doctrine. Current doctrine establishes the bare essentials in clarifying things such as the EHT's task, purpose, mission, and METL. It is far from perfect, and at times is confusing. The good thing is that there is a baseline established. The next step is to refine and improve on the current doctrine to fill in all the gaps. Units are wrestling right now to establish the next EHTs. Refined and improved doctrine, even if initiated now, will not be published in time for those teams to use it during train-up, but they won't be the last teams that wrestle with identity, task, and purpose. Current doctrinal shortfalls need to be addressed in support of future EHTs and their understanding of integration with the explosive hazards fight.

The Way Ahead

Somewhere between 2003 and April 2009, a valid doctrinal concept lost its momentum, bogged down by branch infighting and a lack of institutional knowledge. Reduced to nothing more than an engineer personnel resource pool in Iraq, the EHT is at risk of becoming obsolete before being truly exercised as intended. But those involved in establishing the first EHT and the subsequent proof of concept agree that, manned properly, there could be a real and significant future for the EHT. In fact, there may be no better time than right now to get back to basics, align engineer doctrine with action in-theater, reengage with the Ordnance Branch, and truly prove the concept called "explosive hazards team." The next step will require engineer leader involvement and engagement, but as a small piece of the future of our branch, that shouldn't be too much to ask.

Captain MacDonald is the officer in charge of the 1st Explosive Hazards Team, 8th Engineer Battalion, 36th Engineer Brigade. Previous assignments include Commander, 584th Engineer Company (Mobility Augmentation Company), 8th Engineer Battalion; and Commander, Alpha Company, 16th Engineer Battalion. He has been selected for the Army Congressional Fellowship Program and will be concurrently pursuing a master's in legislative affairs at George Washington University.