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Army-Marine Integration

Volume III

Observations, Insights, and Lessons

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CENTER FOR ARMY LESSONS LEARNED

SUPPORTING THE WARFIGHTER



Army–Marine Integration Volume III

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Foreword

The United States faces diverse challenges requiring a broad range of flexible capabilities to meet the ongoing security and stability operations in Iraq and Afghanistan, confront aggressive state and non-state actors, and provide humanitarian assistance. The key objective in force readiness and preparation to operate in diverse environments across the spectrum of conflict is flexibility. This enables the Army and Marine Corps to meet today's global challenges and successfully respond to emerging crises. Operational forces maintain flexibility to succeed in overseas contingency and civil support operations only through rigorous, effective training.

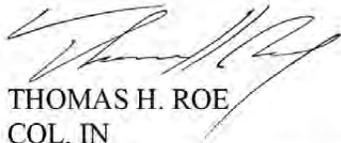
Effective training conditions thought processes, reinforces best practices, and improves operational capability. The best training combines personal and corporate knowledge with "hands-on" experience to keep Soldiers and Marines responsive and flexible to fast-changing operational environments. Each must be proficient in individual skills and critical collective functions identified in their unit mission-essential task lists. Today's ongoing complex operations demand adaptive training that realistically incorporates lessons learned and enemy and friendly tactics, techniques, and procedures for counterinsurgency (COIN) and hybrid operations. The dynamic demands of persistent conflict and a high operational tempo are met through effective training, which is essential to our nation's success.

This newsletter focuses on Army and Marine Corps predeployment and sustainment training for operations in Afghanistan as service, joint, or coalition forces. The professional journal articles included herein illustrate unit actions taken at home station, combat training centers, and in theater to prepare personnel and units to meet Operation Enduring Freedom's (OEF) challenges. The Soldiers and Marines highlighted clearly demonstrated ingenuity and leadership in their actions to defeat the enemy, enabled the operating forces, and successfully prosecuted all other missions relating to COIN and stability operations. The lessons learned and invaluable insight to training management can be readily adapted to similar situations encountered by either service.

The Center for Army Lessons Learned (CALL) and the Marine Corps Center for Lessons Learned (MCCLL) hope this issue stimulates innovation, learning, and sharing of ideas between services. The goal is to get the knowledge and insight found in these pages into the field in such a timely manner as to make them invaluable to the next Soldier and Marine in the deployment queue.

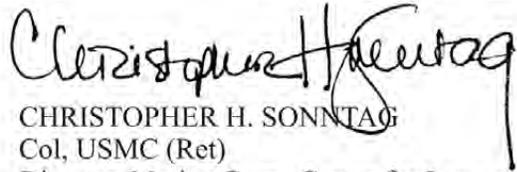
CENTER FOR ARMY LESSONS LEARNED

CALL and MCCLL provide vehicles to inform the operating forces; the doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) stakeholders; and the advocates of the unvarnished experiences of servicemen preparing for and engaged in operations. Reporting or relaying these experiences may provide the impetus to effect a change in any or all of the DOTMLPF pillars.



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The intent of this CALL publication is to share knowledge, support discussion, and impart lessons and information in an expeditious manner. This CALL publication is not a doctrinal product. The observations, insights, and lessons (OIL) observed and reported in this publication are written mostly by Soldiers and Marines for use by service members and DOD agencies.

Please send relevant articles on Army–Marine Corps integration efforts for OIL, tactics, techniques, and procedures (TTP), best practices, or research and development to the CALL LNO by mail: CG, TECOM (MCCLL), ATTN: CALL LNO, 1019 Elliot Road, Quantico, VA 22134 or by email: mccll_ops@usmc.mil.

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The Secretary of the Army has determined that the publication of this periodical is necessary in the transaction of the public business as required by law of the Department.

Unless otherwise stated, whenever the masculine or feminine gender is used, both are intended.

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Introduction

This newsletter focuses on Army and Marine Corps training. It presents a diverse mix of training topics that cover home station, combat training centers, coalition forces, and the innovative use of technology. These articles encapsulate the “Train as You Fight” ethos and most demonstrate predeployment actions and combat operations in Afghanistan.

The high operational tempo and shifting missions in Operation Enduring Freedom (OEF) continue to highlight the importance and dynamics of training. Within the past two years, new training and operational requirements have had significant impacts on individuals, units, and operations. The International Security Assistance Force’s mandate for female engagement teams and U.S. Forces–Afghanistan’s directed minimum language training for deployed forces present both challenge and opportunity. The enemy’s ability to quickly change improvised explosive devices (IEDs) and other tactics, techniques, and procedures (TTP) to counter friendly TTP places great demands on training to be current, proficient, flexible, and adaptive. New programs continue to evolve, such as the IED detector dog used by both services. Partnering with the Afghanistan National Army and operating with coalition partners creates additional training demands. This scenario highlights training as the warfighter’s tool to develop leaders now and in the future for complex and full spectrum operations.

The ideas and positions presented in these articles reflect the opinions of the authors and, in some cases, may not be “approved” by the Army or Marine Corps. The recommendations in these articles should always be validated or considered against the backdrop of current Army, Marine Corps, and/or joint doctrine and accepted TTP.

The Center for Army Lessons Learned (CALL) acknowledges and thanks the professional journals and authors who permitted the reproduction of these articles.

Minor modifications to format were made to support the CALL newsletter format. Pictures not referenced in the narrative were omitted. Every effort has been made to provide appropriate credit to the authors and professional journals.

Sword/Vernon Interchange: A Crossroads in Combating Improvised Explosive Devices

CPT Dustin Navarro, CPT Clint T. Edwards, and CPT David M. Williams

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While deployed in support of Operation Iraqi Freedom 08-09, conventional U.S. Armed Forces continued to work toward sustaining local security and developing civil capacity in a post-“surge” environment. As these operations progressed, U.S. forces reduced their forward presence, as the Government of Iraq and Iraqi Security Forces became effectual.

The 2007-2008 surge in Iraq allowed U.S. and Iraqi forces to clear and hold Baghdad, but current units must continue to build on past successes by employing assets other than boots-on-the-ground as the forward footprint of coalition forces declines. Since 2004, the intersection of Alternate Supply Route (ASR) Sword and Vernon in Western Baghdad has been a consistent improvised explosive device (IED) engagement area where attacks directly impact the local populace, logistics movements, and coalition forces attempting to maneuver throughout the battlespace.

By employing enablers available across the brigade combat team (BCT) and Multi-National Division-Baghdad (MND-B) organizations, combined with the support of Iraqi public works directorates, Comanche Troop, 5th Squadron, 4th Cavalry Regiment (5-4 Cavalry), executed engagement area development to allow the Iraqi army to effectively target enemy forces while ensuring key terrain in Baghdad remained secure. The doctrinal steps of engagement area development still apply in the contemporary environment; however, the continuous mission and existing threats necessitate an out-of-sequence execution to allow the Iraqi army to protect the terrain while the environment is shaped as assets become available.

The Intersection

Visualize how the enemy might attack.

The local populace’s freedom of movement in northwestern Baghdad heavily depended on ASR Sword (locally known as highway 97 or highway Abu Ghuraib) and Vernon (locally known as the Khalid Bin al-Waleed highway). Likewise, these ASRs were vital to coalition forces executing resupply operations throughout Iraq. Coalition forces, logistics convoys, Iraqi Security Forces (ISF), and thousands of local nationals use these routes daily to bypass congestion inside the city, which is caused by ISF checkpoints. Numerous insurgent groups employed IEDs at this intersection due to a constant flow of coalition force sustainment convoys, multiple on and off ramps, and convenient natural cover.

ASR Vernon runs off of Main Supply Route (MSR) Tampa, just north of Baghdad, and extends south through Baghdad’s western Hayys (Shulla, Ghazaliya, Adl, Jamia, and Khadra) to MSR Irish. The route served as a vital supply line for moving supplies north on MSR Tampa from Kuwait. ASR Vernon allowed lengthy coalition force logistics convoys to bypass the congestion in the city, theoretically creating a faster and safer route. It further supported the sustainment operations of multiple forward operating bases (FOBs). Likewise, ASR Sword supported operations west of Baghdad, allowing support to FOBs throughout Fallujah and Ramadi. Furthermore, within Comanche Troop’s area of operations, the two ASRs facilitated support

from FOBs to a multitude of joint security stations (JSSs) in northwest Baghdad. Given the sheer volume of daily traffic, this intersection was a natural hotbed for IEDs.

History

Visualize how the enemy might attack.

The intersection of ASR Sword and ASR Vernon was a known hotspot for IED activity. The disruption of coalition forces' freedom of maneuver through these crossroads represented tactical success for enemy forces and a sustained information operations defeat for coalition forces. Since October 2004, more than 350 significant activities (SIGACTS) occurred in the immediate vicinity of this intersection; by and large, the majority has been IED related. Prior to the 2007 surge, the intersection averaged more than three attacks per month on coalition forces and ISF. The surge allowed coalition forces to effectively reduce the number of attacks and reestablish freedom of maneuver along the two major supply routes.

Combat logistics patrols also used the intersection, which provided predictable, easy targets for anti-coalition force IED cells. While very few of the attacks produced coalition force fatalities, insurgents were successful in damaging and destroying vehicles. IEDs remained the weapon of choice to exploit coalition force and ISF weaknesses in an attempt for local insurgent networks to delegitimize coalition and Iraqi security forces.

Enemy forces primarily launched attacks out of Khadra (southwest of the intersection) or Ghazaliya (northwest of the intersection) where they maintained freedom of maneuver. Due to stealthy IED emplacement under the cover of darkness, engaging responsible insurgents was challenging. From 2004-2006, very few SIGACTs report any enemy battle damage assessments; however, other information sources indicate otherwise. Nonetheless, enemy freedom of maneuver made the intersection of ASR Sword and Vernon a high-risk engagement area.

As a result of the surge during the spring of 2007, an additional 20,000 soldiers deployed to Iraq, which dramatically decreased the number of IED attacks at the intersection. During the first half of 2005, the intersection averaged 2 to 3 attacks a month; likewise, during the height of sectarian violence in 2006, the intersection saw approximately three attacks every month. However, in late 2007, following the surge, the amount of attacks dropped to less than one attack every month.

In conjunction with the surge, the movement of U.S. forces to Baghdad, where they would operate from a JSS, further reduced the number of attacks at the intersection. MND-B selected the Adl Mall as an FOB, and later as a JSS, because its location provided direct overwatch to key terrain and the capability to rapidly deploy forces as part of the clear, hold, and build strategy. The Adl rapid aerostat initial deployment (RAID) tower, which facilitated 24-hour surveillance of the intersection, allowed coalition forces to rapidly intercept attempts to emplace IEDs and provide rapid response to attacks. The five-story building was guarded by five observation posts (three of which provided direct observation of the intersection) and included two long-range scout surveillance systems (LRAS3), which provided excellent coverage of the intersection. Likewise, the 80-foot RAID tower, posted on the roof, also permitted continuous and detailed observation of the intersection. The 4th Squadron, 10th Cavalry (4-10 Cavalry), landowners of JSS Adl, conducted extensive research of enemy activities and methods at the intersection, and effectively placed its observation assets on the intersection at historic enemy activity timelines. The benefit of JSS Adl's intelligence, surveillance, and reconnaissance (ISR) assets, and a

battalion of U.S. forces within 2km of the intersection, were evident by the complete absence of attacks during the first half of 2008, while July 2008 to January 2009 averaged less than one attack per month.

The presence of JSS Adl and its tremendous force protection assets forced a lull in the enemy's operational tempo at the interchange. However, the Status of Forces Agreement (SOFA) drafted near the end of 2008 and the redeployment of surge forces called for a drawdown of troops in Iraq cities. As part of the drawdown, MND-B was forced to make a decision as to which JSS would close.

With the growing Sunni rejectionist employment of RKG-3 antitank hand grenades throughout northwest Baghdad, 4-10 Cavalry's redeployment, and 5th Squadron, 4th Cavalry's expanded area of operations, the decision was made to close JSS Adl in late January 2009. The transfer of JSS Adl resulted in a direct loss of continuous coalition force observation of the intersection and also increased reaction time to IED attacks and suspected emplacements. Before long, the enemy realized the absence of coalition forces at JSS Adl and quickly returned to emplacing IEDs throughout the intersection; almost immediately, attacks spiked.

In February 2009, there were four attacks or attempted IED attacks at the intersection. The new landowner of the intersection, Comanche Troop, decided to incorporate a combination of disrupting obstacles designed to impact the enemy's planning and execution cycle and thus his ability to emplace IEDs in and around the intersection, while implementing long-term efforts to shape the terrain to deny the enemy access to the area.

Comanche's Concept

Visualize how the enemy might attack. Select where and determine how to kill the enemy.

As Comanche Troop began its transition in early February 2009, to control the intersection, an increased number of IED attacks on coalition force logistics convoys and ISF security patrols made it apparent that great emphasis would have to be placed on securing the intersection. Moreover, reports from the combined explosives exploitation cell (CEXC) confirmed that Sunni rejectionist groups were experimenting with explosively formed projectile (EFP) emplacement at the intersection where Shia extremists previously held exclusive control of this weapon. Comanche Troop recognized the tactical, operational, and strategic importance of securing the intersection and began shaping the terrain through combined intelligence preparation of the battlefield (IPB) with its partnered IA battalion. They also began engagement area (EA) development through ISF, coalition, and local government interaction to combat the growing number of attacks and secure coalition force and ISF movements, as well as the local populace.

Prior to 4-10 Cavalry closing JSS Adl, intelligence analysts and landowners realized that insurgents were stopping their vehicles, along routes, under the guise of maintenance problems to cover their IED emplacements. After reviewing reports and after-action reviews, it was apparent that a greater understanding of enemy techniques was required. Comanche Troop successfully identified insurgent techniques and developed countermeasures, as shown in the examples below:

- Tall grass in marshes underneath overpasses provides the enemy excellent concealment to cache IED components; removing weeds is a necessary countermeasure.

- The enemy uses the intersection's construction/maintenance tunnels as infiltration and exfiltration routes to run command wire and emplace IEDs/EFPs. Similar to Vietnam, it is necessary to deny the enemy access to this terrain.
- Sporadic and broken T-walls "isolating" the nearby population are inadequate; a new wall is necessary to effectively segregate the intersection from the nearby population.

The SOFA further altered the strategic and operational framework of MND-B and further complicated Comanche's ability to conduct unilateral security missions. With the burden of security being transferred to ISF, it was apparent that C Troop would have to "sell" its ideas for engagement area development to the Iraqi army landowner, the partnered 3d Battalion, 54th Brigade, 6th IA Division (3/54/6 IA). While C Troop could provide most of the leg work and various combat enablers, it would truly be up to the IA to maintain security. With that requirement, their input into security improvements would be invaluable. Moreover, support from the local government would be necessary. Comanche's leaders faced the daunting task of selling the project as a benefit to the population's security, quality of life, and a further return to normalcy. With support from the populace, Comanche gained contact to local agencies, which proved to be vital multipliers. Likewise, backing from local support councils and neighborhood advisory councils (NAC) would generate overall support from the local populace, who would be heavily affected by a large-scale operation.

With Comanche moving through troop leading procedures, attacks were still on an uptick. In February 2009, as Comanche Troop assumed joint ownership of the intersection with 3/54/6 IA, three more IEDs were detonated at the intersection and an additional IED was found and cleared by a route-clearance element. While it was readily apparent that the "final" security solution would take time to implement, Comanche knew that they had to impact the enemy's planning and execution cycle in the short term. In an all-night, troop-level mission, Comanche executed a traditional scout mission and emplaced a deliberate 110m triple-strand concertina wire (c-wire) obstacle along the most IED-prone portion of ASR Sword. This temporarily halted potential enemy foot traffic from the adjoining swamp land. While this measure was never meant to be permanent, it was the first in a series of disrupting actions, which would strive to eliminate IEDs as the primary threat at the intersection.

Establishing Eyes-on

Select where and determine how to kill the enemy. Position forces to kill the enemy with direct fire. Plan indirect fires [floodlights] to support direct fires and obstacles.

From day one in sector, Comanche Troop knew that Sword/Vernon interchange was a key enemy engagement area where the last Shia and Sunni rejectionists could effectively place IEDs targeting against coalition and Iraq security forces. The intersection also represented key terrain not only for the troop, but for the squadron, brigade, and division. It was apparent that the lack of continuous ISR assets in the area would require Comanche to dedicate additional manpower to physically patrol and secure the area. The initial step was to coordinate with the partnered IA battalion to conduct joint area security patrols and dismounted observation posts (OPs) focused on templated emplacement and attack windows. This began with a series of leader recons executed by Comanche Troop and 3/54/6 IA's battalion commander. These recons would focus on solidifying a combined plan to emplace Iraqi army OPs and attack positions to more effectively overwatch the terrain surrounding the intersection.

The squadron commander of 5-4 Cavalry confirmed that the intersection represented key terrain and began allocating support and prioritization for key enablers at echelons above troop. On completion of these engagements, the IA battalion commander moved two redundant traffic control points (TCPs), which were not in position to check vehicles on the busy highway, to an elevated position on a closed off-ramp. This new position allowed the IA to observe enemy infiltration routes rather than sit on an ineffective TCP. The IA would endure the brunt of the 24/7 positions, but Comanche Troop provided support with patrols during key hours to provide additional overwatch and combat enablers. Moreover, Comanche continued to conduct joint mounted patrols of the interchange that supported the OP overwatch. Using split HMMWV pairs, patrols established mounted attack positions at differing positions around the intersection, and used LRAS3 to establish additional eyes-on templated engagement areas. While observation improved, Comanche faced another problem.

The intersection marked an IA brigade boundary between 22d Brigade and 54th Brigade; units from both brigades refused to conduct patrols in the other's area of operation. The intersection was technically in 3/54/6 IA's area of operation, but they could not effectively provide overwatch without operating in Ghazaliya, which belonged to 4th Battalion, 22d IA Brigade (4/22 IA). Because 5-4 Cavalry partnered with both 4/22 IA and 3/54/6 IA, the squadron commander leveraged his relationships with the two IA battalion commanders and facilitated a cross-boundary coordination. This coordination proved to be the key in successfully integrating overwatch along an IA boundary traditionally exploited by enemy forces.

While 4/22 IA manned a guard tower on ASR Vernon, it was too far north to effectively overwatch the intersection. Through extensive coordination, Comanche assisted the IA in conducting cross-boundary coordination with 4/22 IA's battalion commander and developed a plan that provided eyes-on the northwestern portion of the intersection from Ghazaliya. Much like 3/54/6's observation posts and attack positions, 4/22 would occupy a guard tower that provided a better line of sight on much of the dead space located under the intersection's overpasses. Moreover, high-powered floodlights provided additional illumination in the dark areas under the overpasses and helped mask the tower's occupants. More importantly, the tower provided an overt demonstration of the security of the intersection. The conditions were now set for Comanche Troop and 3/54/6 IA to begin its physical engagement area development.

Operation All Nighter

Position obstacles groups to support direct fires. Plan indirect fires to support direct fires and obstacles.

As mentioned earlier, with observation posts effectively covering the intersection and Comanche still in its planning/coordinating phase, it was necessary to emplace temporary, yet effective, obstacles to prevent dismounted traffic from using the swampy, tall-grass under the overpasses as cover to emplace IEDs. In the short term, Comanche emplaced a deliberate triple strand of c-wire over 110m of the most IED-prone portion of ASR Sword's southern shoulder. Unlike most of the c-wire strewn throughout the AO as a haphazard and "fix-all" solution to channel enemy movement, the c-wire obstacle emplaced along ASR Sword was deliberately emplaced in a 9-hour, limited-visibility, troop-level mission. While a section provided cordon/security, two sections of troopers pounded metal fence posts and tied together individual strands of c-wire and barbed-wire, as the troop's maintenance section cleared the route of tons of garbage and construction debris with an M88 recovery vehicle. This debris was used to conceal IED

emplacement in previous attacks. During this operation, Comanche emplaced mock security cameras and large warning signs along key avenues of approach as a psychological operations (PSYOP) effort to reinforce terrain denial efforts and create the perception that coalition forces maintained continuous overwatch of the intersection. In the end, Comanche had successfully conducted the first phase in an operation that would end up spanning 3 months and involving support from various combat and combat service and support units.

NAC Cooperation — Beladiyah Trash Pick-up

Position [remove] obstacles groups to support direct fires.

As the long-term plan for the intersection continued to solidify, Comanche leaders, with the help of the civil affairs (CA) team from the 403d CA BN, continued to coordinate with the local government for help. Crucial to the success of the operation would be the Beladiyah's help in keeping the intersection clear of trash and debris that could be used to help disguise IEDs. After initially refusing, Beladiyah's director general of trash began to see the worthiness of assisting coalition forces since the project provided a direct security benefit to the populace by reducing the number of IEDs. Through additional coordination, Comanche Troop and the Khadra Provincial works substation (PWSS), which provided trucks, developed a schedule that allowed for routine trash pick-up throughout the intersection. Over a series of council meetings, Comanche leaders coordinated with the neighborhood advisory council representative for Khadra to assist with the project by establishing an ongoing community service effort in which local citizens would assist Beladiyah with trash removal. With the debris cleared, Comanche could now focus on the meat of the operation, barrier and terrain manipulation.

Operation Tunnel Rat

Position obstacle groups to support direct fires.

While Comanche continued its necessary coordination, 2d Battalion, 1st Infantry Division, Special Troops Battalion (STB), spearheaded a significant effort to secure the intersection with the support of 46th Engineer Battalion. The intersection's construction/maintenance tunnels, and damage from years of IED explosions, allowed the enemy freedom of maneuver to emplace IEDs and run command wire beneath the on and off ramps at the interchange. The counter-IED cell specifically identified that the tunnels and existing damage to the bridge structures posed significant risk to intersection traffic. Through a series of leader recons, engineers developed a thorough understanding of the "tunnel network" and devised a plan for constructing terrain-denial measures.

The concept was simple. 731st Explosive Ordnance Detachment would clear the tunnels of any explosive hazards, which would allow the engineer battalion to effectively seal off all tunnel entrances. Enemy forces previously exploited these entrances to place EFP devices beneath the road's surface. These entrances included drainage ports and detonation craters, as well as typical entry ways, which the engineers blocked with steel plates bolted into the structural concrete. All potential entry ways into these tunnels were then solidly obstructed with steel and concrete. With this terrain successfully denied to the enemy, Comanche could now shift its focus to the swampy, grassy, marshland under the intersection.

Operation Scabbard I

Position obstacle groups to support direct fires.

Operation Scabbard was to be the main effort to combat the intersection's IED problems. Originally a two-phased operation, it evolved into a three-phase operation involving, in some aspect or another, every troop in the squadron, as well as attachments from the 299th Brigade Support Battalion (299 BSB), 225th Engineer Brigade, and the 46th Engineer Battalion. Operation Scabbard I did not involve the intersection, but set conditions for its future security success. In fact, although Scabbard I occurred about 2km west of the intersection, the operation secured exfiltration and infiltration routes for the heavy number of coalition force movements, which due to the heavy equipment, such as palletized loading systems with trailers, flatbeds, engineer equipment, and cranes, necessary for the mission, were severely restricted to one or two routes in the area of operations, due to the heavy equipment, such as palletized loading system with trailers, flatbeds, engineer equipment, and cranes, necessary for the mission.

Due to the threat of RKG-3 and IED attacks in the area, coupled with the majority of movement being conducted during traditional attack windows, it was necessary to construct force protection barriers along critical portions of ASR Sword to deny insurgent cells operating out of Ghazaliya and Khadra freedom of maneuver along canalized routes. In conjunction with A Company, 299 BSB, and a contracted Turkish crane contractor (providing two cranes), Comanche Troop replaced approximately 50 "Jersey" barriers with taller "Alaska" barriers to effectively hinder the enemy's ability to conduct attacks on slow-moving and vulnerable convoys, which would be necessary throughout the duration of the mission. The stage was officially set to allow Comanche to physically attack the intersection and its enemy-friendly terrain.

Operation Scabbard II

The existing barriers in north Khadra, hastily emplaced as makeshift vehicle obstacles during the 2007-2008 surge, effectively controlled vehicle access, but were ineffective in controlling dismounted access to the intersection out of Khadra. Previous c-wire emplacements further disrupted access but were not a 100-percent solution. Scabbard II targeted enemy dismounted infiltration and exfiltration routes in and out of Khadra. As proven by the enemy, it was extremely easy to find cracks in the crude wall, squeeze through, and stealthily maneuver through the tall grass and swamp to cache and emplace IEDs and/or components along the ASRs. Again, Comanche was supported by Apache, Blackfoot, and Delta Troops, as well as patrols from 7th Field Artillery, 299 BSB, and the Turkish crane contractor. The mission's decisive point was to move 7-ton T-wall barriers from the recently vacated JSS Ghazaliya in north Ghazaliya, down the RKG-3 prone Ghazaliya Main, and link-up with Comanche in north Khadra. Once downloaded, Comanche carefully emplaced the recycled T-walls along Khadra's northern-most and eastern-most routes. In the end, Comanche emplaced nearly 300 T-walls covering more than 800m of routes. In addition, Comanche conducted thorough searches of the area with military working dogs prior to all movements to ensure the enemy did not take advantage of the large-scale static mission by emplacing IEDs within the work zone. Meanwhile, with the interior "Khadra wall" complete, Comanche disposed of the old barriers. While most were damaged beyond use, barriers still intact were reallocated to the south Adl wall, inhibiting enemy engagement areas in the vicinity of IA command posts on the north side of the intersection. To finish up the operation, the Beladiyah continued to follow through on its end of the operation and executed a thorough cleanup of remaining trash and debris.

Neighborhood Advisory Council Cooperation and Population Buy-in

Plan indirect fires to support direct fires and obstacles.

Iraqi citizen support was crucial to the success of the mission because Comanche executed each stage of the operation in extremely close proximity to work and living areas. The populace supported the operation based on the fact that security would improve; therefore, coalition and ISF would levy fewer accusations of insurgent support against them. However, more critical to their support were the point obstacles inside of Khadra, which were removed and opened interior traffic as the completed Khadra wall denied the populace mounted and dismounted access to the intersection. In this sense, the project actually increased freedom of movement within the Khadra muhallas and simultaneously blocked all infiltration routes to the intersection. Likewise, neighborhood advisory and security council coordination, as well as detailed “consequence management patrols” and numerous coalition force recons, minimized the mission’s impact on the local populace. The troop kept local citizens informed of coalition force intentions and, on numerous occasions, took additional steps to ensure minimal impact, such as power-line disruption, on their lives. These efforts proved extremely beneficial as Comanche enjoyed freedom of maneuver throughout the muhallas without the traditional resistance to additional barrier emplacement.

Comanche executed key leader engagements with select stakeholders from the NAC, tribal support council, and IA, and informed them that the completed operation would allow previously closed on-and-off ramps to be reopened as the enemy was systematically denied access to the area. This effort allowed local leaders to sell the large-scale operation to constituents as a restoration of essential services and a return to normalcy, even as Comanche reshaped the terrain as part of a deliberate engagement area development.

Contracted Vegetation Removal

Position [remove] obstacles groups to support direct fires.

To effectively conduct operations within the intersection, the 8-foot tall vegetation near the intersection, which previously provided enemy concealment, had to be reduced. Using field ordering officer funds, 5-4 Cavalry’s S4 coordinated with a local national vendor to use manual labor to complete the task. Within days, numerous local nationals had completed the mission using hand scythes to cut the grass. With the grass eliminated, the area was now prepared for the heavy engineer assets to break ground.

Operation Scabbard III

Position obstacle groups to support direct fires.

While the Khadra wall was being constructed, 46th Engineers broke ground in the south-east quadrant of the intersection with Comanche in support and overwatch. Because this quadrant was lower than the swampy quadrant directly west, the engineers graded the quadrant and dug a borrow pit designed to accommodate swamp runoff from the west. In theory, the grading, coupled with the borrow pit, would create a collection pond runoff from both quadrants, thereby preventing standing swamp water and foliage growth beneath the overpasses. This operation was the last step in denying the enemy terrain that previously provided concealment for their IED trafficking, caching, and emplacements. While the 225th Engineer Brigade considered a

contracted approach to the problem set, the significant enemy threat and potential for immediate security gains provided the necessary urgency to commit engineers to this operation rather than contract the mission over a period of months.

Phase III of Scabbard III proved to be the most daunting portion of the operation. While Comanche secured the site, the engineers worked to establish the drainage system to effectively divert all standing water in the southwestern quadrant to the newly dug collection pond in the southeastern quadrant. In essence, the engineers created an earth mound in the center of the quadrant, filling in the deepest part of the swamp and creating an elevation gain, which forced water into a drainage ditch running to the collection pond. The southwestern quadrant was also graded to facilitate water runoff. Upon completion of the terrain manipulation, the engineers spread aggregate throughout both quadrants to further assist water flow.

As this phase of the project began, the engineers faced immediate problems. The swamp naturally proved to be a significant barrier to operating the heavy engineering equipment. In addition, numerous old sewer and water mains ran under the quadrants, pumping even more sewage and water as the engineers continued progress. Despite these setbacks, as a testament to their skill, discipline, and professionalism, the 46th Engineers worked extremely long days and late nights to ensure the mission was completed on schedule.

Civil Affairs Team Support

Plan indirect fires to support direct fires and obstacles.

Meanwhile at Comanche's request, the civil affairs team continued private coordination and discussion with the ministry of electricity (MOE) representative from the district council essential services to restore approximately 15 high-powered lights to working condition. These lights were erected to provide lighting over the intersection but had been inoperative since 2003. The MOE had planned to repair the lights prior to Comanche's operations as part of an ongoing effort to restore services in Baghdad. Surprisingly, after years of inoperability, the lights were in remarkably good condition. With the assistance of the civil affairs team, the MOE secured funding to replace and/or repair a number of bulbs and transformers. Approximately 1 week after completion of the final barrier emplacement, the lights were restored, which provided very good lighting over the entire intersection and contributed to the IA's ability to observe the intersection while denying the enemy concealment.

The combination of initial disrupting operations, with a phased implementation of long-term efforts to shape the terrain and deny enemy freedom of movement, proved effective in securing both the populace and security forces in western Baghdad. Once measures were in place, coalition forces were significantly reduced, continuous coalition force ISR coverage stopped, and there was a considerable reduction in significant activity at the intersection. The implementing unit maintained buy-in and support from the populace, local government, and ISF throughout all phases of the operation by ensuring the operation fostered a return to normalcy while increasing security.

This operation's success relied on a number of nontraditional partnerships and engagements. Regular communications of the operation's components promoted a return to normalcy and ensured population support and buy-in. The operation also allowed coalition and IA forces to reopen seven of the interchange's eight ramps and restore local national freedom of movement in a more secure area. Truly combined IPB and engagement area development with the partnered

IA battalion provided the buy-in that allowed an American troop to shape the terrain while the IA maintained support and readiness to overwatch the terrain through cross-boundary coordination. Deliberate and effective civil affairs engagements secured support from higher levels of the Iraqi government and also ensured that local public works directorates understood the desired end state and benefits to the local populace. Coalition force maneuver units, combat service support units, Iraqi Security Forces units, Iraqi public works directorates, and the populace worked together to achieve sustainable security in western Baghdad. These seemingly disparate efforts have ensured that a once dangerous enemy engagement area was reshaped and secured in a way that does not require continuous coalition force overwatch.

Improvised Explosive Device Trainer Helps Prepare Warfighters for Afghanistan

William J. Sharp, Headquarters Army Directorate of Operations

Reprinted with permission from the March–April, 2010 issue of *FIRES*.

As of February, Afghanistan-bound Soldiers and service members can access “ROC”-solid training to help counter improvised explosive device (IED) threats.

Recognition of Combatants-Improvised Explosive Devices, or ROC-IED for short, is a computer-based interactive multimedia trainer. The program helps train warfighters to anticipate and prevent IED-related incidents in theater. Officials distributed more than 30,000 CD copies of an Iraq-focused program. Based on its success and demand, officials determined the need for an Afghanistan version.

“ROC-IED is a high quality contribution to the safety, survivability, and lethality of our dedicated and selfless warfighters working in defense of our nation,” said Brig. Gen. Ernest C. Audino, deputy director, Army operations, readiness and mobilization directorate (G-3/5/7).

The program is divided into three main topical areas: IED understanding, thermal understanding, and the IED visible/thermal browsing library. A trainee can select Iraq or Afghan-centric modules.

The IED understanding section begins with an IED overview followed by the Afghan operational environment to include types of emplaced devices; IED emplacement tactics; vehicle- and person-borne IED attacks; situational awareness; immediate responses; and preventive measures.

Differences between visible and thermal imagery, factors that affect thermal images, and techniques to optimize thermal images are discussed in the thermal understanding section.

The thermal browsing library helps train users on capabilities and limitations of sensor solutions. The library contains numerous images of personnel wearing a variety of suicide bomb devices. Additionally, ROC-IED’s ask-the-instructor feature allows students to pose questions to various IED subject matter experts.

One of the program’s many benefits is its versatility and flexibility.

“The software uses actual footage from insurgent and coalition-produced video which helps demonstrate lessons learned from both operational theaters,” said Ken Cook, Recognition of Combatants Team member and one of the software’s developers at Fort Belvoir, VA.

Additionally, “ROC-IED can be used alone as introductory level, self-paced counter-IED knowledge training, as a supplement to classroom and lane training, or as long-term sustainment training,” Cook said. “ROC-IED is regularly evaluated and upgraded to address the ever-changing conditions in theater.”

Organizations collaborating on ROC-IED development focused on emerging warfighter needs.

“You almost have to unlearn Iraq counter-IED strategy when approaching the Afghan theater,” Cook said. “That’s because terrain, tactics, types of devices, and the Afghanistan insurgency are considerably different from Iraq. So, in creating the program, we wanted to make sure the training is geared toward the new and different environment.”

The training tool is available to U.S. government agencies and their designated contractors. The Army has also initiated a foreign disclosure process on ROC-IED in order to make it accessible to NATO and International Security Assistance Force partner nations. Product requests or questions can be sent to roc@nvl.army.mil. The program is web accessible at <https://roc.v.army.mil>.

Training Female Engagement Teams: Framework, Content Development, and Lessons Learned

Andi Allen, Gina Ladenheim, and Katie Stout

Reprinted with permission by authors. This article was originally published in the Interservice/ Industry Training, Simulation, and Education Conference (I/ITSEC) 2010.

Introduction

Complex operations often require the development of specialized teams with multidisciplinary perspectives. Examples of these groups include human terrain teams (HTTs), provincial reconstruction teams and, most recently, female engagement teams (FETs). These specialized programs are tasked with engaging local populations to ascertain information on civil-society needs and problems, address security concerns, and to form links between the populace, the military, and the interagency. This paper will examine the background and viability of FETs and analyze their predeployment training.

The report draws upon interviews with both officers and enlisted members of FETs, as well as Afghan cultural advisors. Attention will be given to identifying patterns of successful interaction with locals and the knowledge, skills and abilities necessary to replicate success in a variety of environments. In addition, an assessment of common errors will be evaluated with the aim of incorporating solutions into FET training.

History and Background

The first FET was founded as an ad hoc team to support a specific operation of Combat Logistics Battalion-3 in February 2009. It was comprised of a team of females who provided the simple search function of the Lioness Program in Iraq, in which female service members searched female local nationals at checkpoints. In July 2009, Task Force Leatherneck established a similar FET following an incident in which trapped insurgents escaped a compound by dressing in burkas and walking through a Marine cordon.

From July 2009 to December 2009, FETs were ad hoc, on-call teams which were fielded upon the request of maneuver units. FETs conducted roughly 70 short-term search and engagement missions. Many local Afghans accepted the FET presence and some cultural and atmospheric information was gleaned, but there was no way to quantify the FETs' effectiveness in the larger operational mission.¹

In January 2010, the FET mission became a consistent presence alongside Civil Affairs personnel in key population centers.² FETs engaged the local population, gave them information about what the Marines were doing, provided humanitarian assistance and gathered information about the area of operation. Gradually it has grown into a formal program, and the first platoon of female Marines on a full-time FET is currently deployed in Afghanistan.³

Capt Matt Pottinger, an intelligence officer who co-founded the first FET, wrote that it was designed to allow access to half the population which normally would have been denied due to cultural sensitivities. He said that some military leadership has been critical of the idea of a FET based on the assumptions that Pashtun men would be offended by the presence of American women and that Pashtun women do not have enough influence or knowledge to make valuable

allies. In Capt Pottinger's experience, both of these assumptions are incorrect. In fact, FETs have evolved to engage both men and women. Anecdotal evidence shows that Pashtun men often feel more comfortable opening up around American women than men. Pashtuns see American women as sort of a third gender: Pashtuns do not believe the rules for behavior and dress for Pashtun women should be applied to American women.⁴ Furthermore, according to Mariam Mansury, advocate and congressional liaison at the Hunt Alternatives, a Washington DC-based consulting group, Pashtun women have a powerful role in their families and in society. They have a wide network of male contacts and can be the difference between their sons becoming peacemakers or insurgents.⁵

To illustrate the potential effectiveness of FETs, Capt Pottinger and Hali Jilani, cultural advisor for MEB-A, cited their experience in Khan Neshin district. They said Khan Neshin is typical of the places Marines are attempting to seize the initiative in Helmand province: it is poor and socially conservative, it has a diverse population of Pashtuns and Baluch, and there is a mix of longtime residents and new arrivals. The main concerns are water scarcity, security, and inadequate medical care. Although the Marine presence has allowed for a modicum of security and the bazaar has reopened, locals are still wary. They worry that the Marines will not stay long-term, and, once they are gone, the Taliban will take over again.⁶

Capt Pottinger and Ms. Jilani said this condition, typical across much of the Helmand province, is one in which FETs can provide tangible gains. A FET came to Khan Neshin Castle for a weeklong mission, and, every time their patrol stopped to talk to local men outside a compound, the FET was invited inside to visit the women. During each visit, the FET successfully encouraged the women to open up about their daily lives and concerns. Word spread among locals that female Marines were in the area, and the FET discovered that some Afghan women had been eagerly waiting for a chance to talk to them. One woman said they had "prayed you would come to us." The FET accepted tea and bread from the families they visited and dispensed over-the-counter medicine.⁷

Capt Pottinger and Ms. Jilani said of Khan Neshin: "Here, as elsewhere in Helmand, the presence of female Marines softened the interaction with local men and children." They quoted a local man who opened his home to the FET as saying, "Your men come to fight, but we know the women are here to help." They also reported that male Marines on patrol without the FETs said Afghan men thanked them for bringing women to help.⁸

Challenges

However, according to MSgt Julia Watson, 2nd MEB-A FET officer in charge, the anecdotal evidence does not provide tangible proof that FETs are "doing anything out of the ordinary." She says female Marines in Civil Affairs positions have far more productive interactions with locals, and much greater ability to deliver on their interactions than FETs do. She said FETs do not have the ability to deliver because their multi-pronged mission statement involves too many items, too little training and their unit structure prevents them from full integration into the infantry company level.⁹

A glaring structural weakness of the FET program is that, currently, parallel teams are being employed in Afghanistan: a Civil Affairs engagement team comprised of males and females, and a FET. Both are doing the same thing, except the FET lacks the ability to deliver either intelligence to their commanders or added value to Afghan villagers. FETs have a separate chain of command and different operating procedures for reporting information. MSgt Watson and

Lt Col Valerie Jackson, a Civil Affairs trainer at Security Cooperation and Education Training Center (SCETC) in Quantico VA, said the FETs as they are being organized, trained, employed, and reporting need to be completely replaced with female Marines who have Civil Affairs military occupational specialty.¹⁰

According to MSgt Watson, as it is structured now, the FET is a separate unit of female Marines who are untrained, risking their lives and putting the infantry at risk. She said the FETs' efforts are often counterproductive because they have short and sporadic meetings with local women, collect information and then walk away. This hinders the effort to win support of locals because it imparts a false sense of hope which later turns to disappointment and bitterness. When FETs are unable to deliver any lasting goods or services (due to lack of clarity about their mission, poor training and institutional challenges), this has the unintended effect of breeding resentment which can be passed on to future generations, as has happened already due to inconsistent and poorly executed engagements. As the key goal of a counterinsurgency operation is to win over the hearts and minds of the local population, this outcome is undesirable, to say the least.¹¹

FET Training

Unless the FET evolves into a group of female Marines who are part of a Civil Affairs team, the length and scope of predeployment FET training must be increased, and FET members and their commanders must be clear on FETs' mission and scope. To underscore the importance of good training, Capt Pottinger said most unsuccessful interactions with locals are the result of poor training and poor preparation. Missions which require troops to go into areas they do not plan to hold are of limited value and cause more harm than good in the short term. Capt Pottinger said a FET accompanied by a HTT was passing through a village and stopped at an abandoned compound to spend the night, villagers came and asked them to leave, saying their presence would draw attacks from insurgents. The FET was able to gather rudimentary information, but had no positive influence on the villagers. With better planning, the FET's finite resources might have been used elsewhere.¹²

The FET established by Marine Expeditionary Brigade (MEB), Task Force Leatherneck, was trained for a period of six days. The Marine Expeditionary Force (FWD) FET currently in Afghanistan was trained for roughly three months prior to deployment. However, their training was about 70 percent kinetic and only 30 percent classroom instruction on language, the use of interpreters, and cultural awareness. In other words, the bulk of the training consisted of infantry tactics, tactical site exploration, combat tracking, night/day marksmanship, physical training readiness, martial arts, and other skills necessary for survival in a war zone, while the cultural, language, and role play scenarios were not as heavily emphasized. The FET leadership conducted most of this training based on the MEB FET after action reports of July-August 2009 and the Iraq experiences of those in the training group. According to the incoming FET when it arrived in Afghanistan, the Iraqi model of the Lioness Program was still entrenched in their training.¹³

A crucial part of training must clarify the FET mission and objectives. MSgt Watson recommends having a focused, doctrine-based training model. She writes that many of the FETs under MEF are not clear on what they are supposed to do, contrary to what battalion commanders and operations officers believe. The FETs are unprepared to know what to ask local women, what to do with the information in the larger picture of stability operations or how to write a report which could be used for non-kinetic targeting and planning purposes. Overall, she said they do not have a good grasp on how civil military operations ought to be conducted.¹⁴

FETs, because of their unique role in being able to reach Afghan women, should also be clear on Afghan women's constitutional rights and build upon what others have accomplished, according to Mariam Mansury. She said the Afghan constitution has made provisions for women's rights and Afghan civil affairs leaders are working to empower women. FETs' mission will not necessarily replicate that of nongovernmental organizations or women's rights workers, but they should be aware of what rights women actually have and what is promised under the law.

Conclusion

Unless and until FETs are fully dissolved into civil affairs battalions, all members of FETs should be given civil affairs training. The essence of a FET's purpose is civil military operations; therefore, they must be given the proper training to conduct their mission effectively.¹⁵

In addition to civil affairs training, FETs should be given specialized instruction which outlines their mission and scope, and narrows their focus on the right questions to ask and how to report information. Capt Pottinger notes that the most effective training methods are the practical applications in which trainees are placed in various scenarios with role players and are forced to take control of a situation while speaking through an interpreter.¹⁶ To improve training, FETs should be given more repetition and practice with scenarios.

It is clear that the original purpose of a FET, to provide access to half the Afghan population, is justified and necessary. Female Marines are in a unique position to be able to connect with Afghan men and women to conduct civil military operations. However, lack of clarity about the FET mission and scope, glaring structural weaknesses, and inadequate training limit the ability of FETs to be as effective as possible in engaging the Afghan population and reporting tangible information on their areas of operation to their commanders. The Marine Corps was innovative and forward-thinking in designing the first FET, but for the program to be successful, it must adapt to overcome its weaknesses.

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Aviation in the Mountains: Training Marine Aviators for Operations in Complex, Compartmentalized, and Mountainous Terrain

Capt. Bart A. Betik

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Mountains, often associated with extremes in weather conditions, complexity in terrain, and high altitudes, are located across a significant portion of the world. Currently the Marine Corps finds itself engaged, once again, in an area of operations that presents the MAGTF with extreme challenges. Combat operations in Afghanistan have posed requirements for which Marine aviation has been less than prepared to address at both the unit and individual aircrew levels. Marine aviation must mitigate training shortfalls in order to effectively take the fight to the enemy in areas of operation comprised of complex, compartmentalized, and mountainous terrain at medium to high altitude.

The Environment

Understanding what defines this type of environment is the basis for shaping Marine aviation training in order to meet current and future operational requirements. No single definition exists, and there are multiple Service publications, books, and papers that provide descriptions and definitions of mountainous and cold weather environments. *Maintain and Cold Weather Warfighting: Critical Capability for the 21st Century* by Marine Lt. Col. Scott W. Pierce defines a mountain and cold weather environment as characterized by one or more of the following attributes: persistent ambient air temperature below minus 5 degrees Fahrenheit (minus 21 degrees Celsius); persistent mean snow depths of approximately 20 inches; significant glaciated terrain; rugged, severely compartmented terrain; and combining mean slope angles of 45 degrees with elevation differentials exceeding 1,000 feet (300 meters) and with peaks exceeding 8,000 feet (2,430 meters) above sea level.¹ Operations in Afghanistan, particularly in Regional Command (RC)-East and northern portions of RC-South, fall within this definition. Marine aviation must possess a consistent and reliable capability to operate in this environment for the long term and not solely focus on the current situation.

Current Opinions: Ground Perspectives

Several Marine ground commanders who have served in Afghanistan have indicated a strong preference for Army aviation over Marine aviation, specifically in the assault support role. This stance is primarily based on specific airframe capabilities/limitations, individual aircrew proficiency, and views of risk management and mitigation. Understandably, there are numerous variables at play, including asset availability and capability, specific area of operations, sourcing of assets, and training, both specific predeployment training and standard training and readiness (T&R) manual or Service equivalent requirements.

There are significant risks and tactical implications to conducting rotary wing and tilt-rotor operations in a mountainous environment that require a consistent and reliable capability in order to carry out combat missions. As noted by Major Asim Malik of the Pakistani Army:

Aviation is critical to mobility, timely logistics, and precision firepower. Pilots should be well trained in mountain flying and in understanding in h i n try men's problems in mountain terrain.²

This quote describes the substantial requirement for aviation units and aircrew to be current and proficient in mountain operations from an army that trains and utilizes aviation assets on a routine basis in mountainous environments. The operations and training conducted by Pakistani pilots provide for a force-in-readiness as opposed to current Marine Corps training programs that force aircrews to develop flight experience once deployed to an environment defined by complex, compartmentalized, and mountainous terrain at altitude.

Current Opinions: Air Perspectives

The need for specific training for operations in a mountainous environment is heavily debated across the Marine aviation assault support community. Generally, the T&R manuals for each type/model/series platform differ slightly in overall T&R requirements. Conditions and requirements also vary and may not be clearly defined or defined at all.

Much of the debate centers around concerns that T&R requirements are already too vast to account for the development of a combat-capable aviator while concurrently maintaining squadron core capabilities. This situation has resulted in a low or nonexistent priority for training in a mountainous environment with squadrons often opting for simulated evolutions or basic training in confined terrain. Training in actual mountainous terrain and at medium to high altitude can provide for nearly all significant environmental conditions to be presented and, potentially, presented at the same time. This will allow for basic familiarization and understanding of the environmental effects to be planned for in the future.

Defining the Requirement

Multiple factors have resulted in a diminished ability to conduct training and maintain capabilities for Marines across the MAGTF. In order to provide for training in this environment, the requirement must be clearly defined and prioritized accordingly. Observations and recommendations have been compiled by a variety of means, such as the Marine Corps Center for Lessons Learned, after action reports from units in various theaters, and papers/discussions at various intermediate- and top-level schools. Many of these sources describe the same situations and make the same recommendations time and time again. In order to address support shortfalls, a synergistic effort between all elements of the MAGTF is required to identify requirements and design training plans, whether T&R manual based and/or through changes to predeployment training programs (PTPs).

The Way Ahead

Flying in mountainous terrain at high altitude requires an understanding of the operating environment and a practical application of skills within it. The U.S. Navy and U.S. Army have identified such a requirement and have developed schoolhouses to address the training shortfalls within their respective training programs. Both programs are focused on basic familiarization of power management skills, aircraft performance, safety, and aircraft capabilities. Marine Corps aviation could benefit significantly from both of these courses of instruction by either developing a similar program or sourcing aviators to attend these courses on a regular basis. In any event, changes to T&R manuals and/or PTPs will be required.

T&R manual recommendations include standardized conditions identified and implemented, specific altitude requirements (medium to high altitude) implemented, selected core basic skill phase requirements added to core advanced or core-plus phases with the mountainous/altitude conditions and requirements implemented, and/or instructor pilots regularly sent to the U.S. Navy Mountain Flying Course or the U.S. Army High Altitude Aviation Training School. Predeployment training recommendations include an aviation combat element (ACE) PTP designed for and executed in a mountainous and medium- to high-altitude environment and/or squadron detachments scheduled and regularly supporting Exercise MOUNTAIN WARRIOR at the Marine Corps Mountain Warfare Center.

The Marine Corps and Marine aviation are in the development of new doctrinal and operational planning publications. The mountain operations doctrinal publication and the how to plan air assault operations publication will provide requirements and planning guidance in the conduct of operations in a mountainous environment. In order to execute operations in complex, compartmentalized, and mountainous terrain at altitude and operate doctrinally, training and preparedness must be developed from the individual aircrew levels through the ACE and ultimately the entire MAGTF.

Summary

Operating in an environment defined by complex, compartmentalized, and mountainous terrain at altitude imposes significant challenges to all Marines across the MAGTF. T&R must be a priority, focused on the basics, in order to prepare all Marines to take the fight to the enemy in any climate and place, and at any time. As a major supporting element, the ACE, specifically the assault support community, must be trained and at the ready in order to support effectively, efficiently, and safely.

Endnotes

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Training for Afghanistan on America's High Ground

Dennis Steele

Reprinted with permission from the August 2010 issue of *ARMY*.

The bronze Kit Carson statue at Fort Carson's visitor gate points westward to the craggy horizon of the Rocky Mountains, Colorado's signature natural landmark and the post's greatest asset in training soldiers for the Afghanistan war.

At the base of the Rockies, Fort Carson, home of the 4th Infantry Division (Mechanized), sits at an elevation above 6,000 feet, and the nearby range juts steeply to top out at 14,115 feet with Pikes Peak, which towers over the high prairie and expanse of Colorado Springs, the fort's hometown.

It is an area that is nearly ideal for preparing and training to meet the rigors of Afghanistan, shaving weeks or months from the altitude acclimation that troops must endure when they arrive in Afghanistan and providing a physical training course for the climbs that likely await them in theater.

During the past year, the 4th Division's 1st Brigade Combat Team (BCT)—which relocated to Fort Carson from Fort Hood, Texas, last summer and is the Army's first heavy brigade scheduled for deployment to Afghanistan—has been maximizing the mountain training opportunity as it transformed itself into a light infantry unit in both ability and attitude to be part of the U.S. force buildup for Operation Enduring Freedom and operations that are planned as a major push against the Taliban.

The brigade parked its Abrams tanks and Bradley fighting vehicles and stepped up individual soldier preparation, concentrating on dismounted combat skills and physical training aimed at increasing endurance and patrolling on steep and uneven ground while carrying heavy loads.

"We've spent a lot of time walking up and down hills," said MAJ David Meyer, the 1st BCT's executive officer. He noted that general training goals and operational outlook shifted to reshape the brigade as a light infantry unit.

"In a heavy brigade, vehicles are an essential element, so the main challenge was to become primarily dismounted," he said. "On Fort Carson, we [have high enough elevation] to begin with, and we utilized the terrain around us, incorporating road marches and trail running into our training, toughening our feet, toughening our backs and understanding our loads—load planning for individuals, not tanks—and doing internal cross-leveling to create very capable platoons."

But some things did not need revamping: "What did not change is that we are still training lethal platoons," MAJ Meyer explained. "And leadership is leadership."

Some skill sets had to be adapted. Since heavy brigades are equipped with 120 mm mortars, the 1st BCT mortar crews had to be trained on the 60 mm and 81 mm mortars they will use in Afghanistan, for example. The BCT also tripled its mortar density, building mortar crews from scratch.

“It’s easy to focus on equipment; it’s easy to focus on ‘stuff.’ Those are things that are tangible,” MAJ Meyer said. “Ultimately, it’s leadership and people. Ultimately, it’s a mind-set—a mind-set that we have to prove ourselves. Success is the mind-set.”

“The change of mind-set, we call ‘the juice,’” said CPT Mikel Resnick, commander of the 1st BCT’s Company D, 1st Battalion, 66th Armor (1/66 Armor). He explained, “It’s physical and mental toughness. It’s a total shift: We’re not an armor company anymore; we’re a light infantry company. We’re not an armor battalion anymore; we’re a light infantry battalion. In fact, we don’t even refer to ourselves as the 1/66 Armor—we say we’re Task Force 1/66.”

The captain said that during the previous seven to eight months, his company—cross-leveled to be a 50-50 armor/infantry unit—conducted only dismounted operations, leading up to its mission rehearsal exercise at the Joint Readiness Training Center (JRTC), Fort Polk, LA.

“We were the first tank company to go through JRTC, and they couldn’t tell that we were tankers,” CPT Resnick said.

The company instituted a grueling physical training (PT) regimen of road marches, running obstacle courses with 100-pound loads and National Football League combine-based challenges that were militarily adapted. The soldiers did hill sprints wearing individual body armor (IBA) and climbs up sides of the nearby Rockies in IBA.

“The key element was that off-post PT,” CPT Resnick said. “Here at Fort Carson, we can do PT at 8,000 or 9,000 feet, and that can’t be replicated anywhere else.”

The 1st BCT’s objective was to create independent and self-reliant platoons, adapted specifically for operations in Afghanistan with more combat punch and added capabilities. Combat medical capabilities were increased using training techniques borrowed from the Ranger first-responder program to create advanced combat lifesavers who the 1st BCT call “Raider first responders” for their Raider brigade designation.

The number and capabilities of squad designated marksmen were ramped up, issuing enhanced battle rifle sets—which are composed of the latest variant of 7.62 mm, M14-based rifles, accurized and outfitted with a 10-power scope, bipod and lightweight stock—and bringing in a training team from the U.S. Army Marksmanship Unit (USAMU) to train the brigade’s squad designated marksmen on the system and distance shooting in general.

SSG Joel Micholick, an instructor with the Fort Benning, GA.-based USAMU mobile training team, which incorporated volunteer civilian instructors from the Civilian Marksmanship Program, said, “We take a soldier and give him an understanding of trajectory and how to incorporate environmental effects like wind—generally, what things can affect a shot, why they happen and how to adjust for them.”

Squad designated marksmen from the 1st BCT unboxed their new weapons, and the USAMU team helped them in adjusting scope eye relief, trigger pull and the like. The team conducted classroom instruction and took trainees to the range to zero the weapons and for practical application, which meant a lot of shooting.

“My hope for these guys is that we can teach them to use their weapons effectively, integrate that into the squad and ultimately be a force multiplier,” SSG Micholick said. “The team’s goal is to give soldiers confidence in the weapon system and the knowledge to survive and succeed.”

Along the lines of the squad designated marksman enhancement, the brigade has incorporated a squad-designated linguist training. Approximately 300 of the brigade’s soldiers graduated from an intensive seven-week course in Dari and Pashto conducted by a mobile training team organized by the Defense Language Institute Foreign Language Center. Classes were held four days a week, six hours a day, to give soldiers a “tactical vocabulary” of at least 300 words (a minimum standard exceeded by many students) as well as practical skills in constructing sentences and conveying ideas by conversing with native Afghan instructors in scenarios they are likely to encounter once in theater.

“The overall idea of our training is independent empowerment, creating self-reliant and independent platoons,” MAJ Meyer explained.

As of this writing, the 1st BCT, the Army’s newest light infantry brigade, has deployed to Afghanistan and will test its skills in combat soon.

Afghanistan: The First Six Months

LTC Michael J. Forsyth, MAJ George L. Hammar, and MAJ Billy D. Siekman

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The 2nd Battalion, 77th Field Artillery, deployed to Afghanistan and was tasked in the first six months with a dual mission of providing timely and accurate fires for maneuver units in 4th Infantry Brigade Combat Team, 4th Infantry Division, and securing an area of operations encompassing 1,200 square miles. From the beginning, we learned valuable lessons other units deploying to Afghanistan might find useful. Such lessons include application of fires in mountainous terrain, the indirect approach to maneuver operations, the criticality of field artillery operations and balancing maneuver missions with the fire support role, and we've learned the fact that fire support in Afghanistan requires skills beyond basic forward observer tasks. This article discusses lessons learned and offers solutions to issues we discovered. We organized the article into two sections, discussing the dual mission — owning an area of operations in Afghanistan and fires in counter-insurgency operations.

Owning an area of operations in Afghanistan

Because our brigade combat team was spread across an area of eastern Afghanistan covering more than 10,000 square miles, it was incumbent upon the brigade combat team to assign the battalion's headquarters an area of operations. Area of Operations Steel encompassed more than 1,200 square miles and four districts of two separate provinces in Afghanistan. This challenge was even more daunting when considering the assets available to secure such a large area with imposing mountainous terrain. With a maneuver platoon raised in house and other attached enablers, 2-77 Field Artillery implemented operations designed to secure the area enabling governance and developing building capacity successfully. In securing the area, we applied an indirect approach to facilitate success.

For 2-77 Field Artillery, it is the process of using many different assets, most of which were nonlethal, to produce effective security in our area. Upon arrival in Afghanistan, our unit came under attack on several occasions within the first 10 days of transition of authority. We had a decision to make at that point — whether or not to go out the gate hard with lethal operations or to take a softer approach using information operations, civil-military operations, engagement and relationship building with locals to enable security. The paucity of resources helped drive the decision toward the latter because a significant loss in manpower effectively nullified lethal operations. As it turns out, our focus on nonlethal operations, complemented by patrolling and presence in the area of operations, drove down the number of attacks several fold in the weeks following the first 10 days.

Lessons in maneuver operations. Before our deployment, the maneuver mission pressed the battalion to develop a cohesive platoon capable of dominating terrain to prevent insurgents from controlling the population in partnership with Afghan forces. This maneuver platoon consists of about 36 Soldiers from across the battalion from multiple military occupational specialties.

During the training for Afghanistan, the maneuver platoon rehearsed battle drills as a complete platoon. During the deployment however, mission requirements forced the battery commander to maintain an observation post at all times as well as maintain a maneuver element. This effectively reduced the platoon's ability to maintain a dismounted element larger than a fire team

because it could never roll with more than two-thirds of the platoon. The lack of manpower reduced the platoon's ability to close with and destroy the enemy. This forced the platoon to adapt their battle drills to coordinate all systems bringing maximum fire power to the fight. Furthermore this allowed the platoon to remain mounted and dominate the enemy from the vehicles until additional brigade assets, such as close combat attack or close air support, are available to enhance the capabilities of the small element.

The early activities in our area of operations and limited manpower forced the battalion into an indirect approach of conducting operations. The battalion plans for the maneuver-platoon Soldiers to execute operations that combine nonlethal elements, while remaining prepared for lethal situations. This enabled us to maintain combat power for the long haul while also winning over the population so that we can implement programs to develop infrastructure, governance, and the Afghan National Security Force. These new tactics also allowed the battalion to achieve the objectives of securing the population and gaining support for the local government.

Implementing the maneuver platoon and key leader engagements by the battalion leadership was instrumental in exerting pressure on the enemy by leveraging the people's will. These methods forced the population to choose between the security and development we provided or the violence and poverty the Taliban provided. Our end state is to change the enemy's standing operating procedures, forcing him to take action that is detrimental to his objectives, thus informing the populace of the Taliban's true intentions.

Obviously, our training prepared the platoon for lethal combat operations. However, our staff and Soldiers realized victory does not come through destruction of the enemy or by dominating the terrain in counter-insurgency operations. Rather, success is quantified in the way you dominate the *human terrain*. This realization allowed the staff to develop courses of action for the maneuver element that focused on support of the local population and government. This approach was instrumental for us to achieve our objective without continuous lethal engagements with the Taliban during an extended deployment.

Partnership. The Afghanistan National Army artillery battery had many similarities to coalition artillery units in the current operational environment. It was the only ANA unit assigned to western Nuristan with a dual mission of direct support artillery and security operations. Therefore, it had to develop a dual systematic approach to establishing a security presence in western Nuristan while honing artillery skills to provide timely and accurate artillery fires in support of Afghanistan National Security Force.

The assessment of the U.S. Marine Corps embedded training team and our leadership, upon arrival at Forward Operating Base Kalagush, was the artillery battery was incapable of providing artillery fires or comprehending its role as the Afghanistan National Security Force element responsible for security in western Nuristan. Its artillery skills were rudimentary with only an ability to conduct direct fire missions and basic crew drills. Specifically, the fire direction center could not process a fire mission in a timely manner; the forward observers had no understanding of map reading, spotting elevation or conducting target refinement; and only a handful of cannon crewmen could lay the howitzer. Furthermore, only the first sergeant understood tactics well enough to close with and defeat the enemy.

As artillerymen, it was a sobering realization that our focus in western Nuristan must include partnering with the ANA artillery battery to increase its competency in the five requirements for accurate predicted fire. First and foremost, we had to develop a D30 certification program

to ensure the unit was capable of providing accurate and timely artillery fires in support of Afghanistan National Security Force and, ultimately, fires in support of any coalition forces as required. This certification program used *Field Manual 3-09.8 Field Artillery Gunnery* as a guideline.

The ultimate objective of the certification program was to train the ANA artillery sections at Forward Operating Base Kalagush in a deliberate, thorough process, culminating in a section live fire in a six-to-eight week period. During the training period, our fire direction center trained and certified the ANA fire direction center in the manual computation of firing data and the digital computation of firing data using the ANA artillery computer system. Our firing platoon similarly trained and certified the platoon leadership in all tasks from occupation to effective crew drill procedures. This was a daunting task and was only achievable through the sheer determination of our trainers and the eagerness to learn by the ANA leaders and soldiers as they modified years of traditional practices to improve their efficiency.

The ANA's practices and doctrine tended to over-centralize tasks with the leaders personally, doing jobs subordinates perform in our Army. Therefore, the battery commander, the lieutenants and the first sergeant acted as the observers, the fire direction center and the section chief for the howitzer. This practice, naturally, did not facilitate training the entire battery on proper crew drill procedures or individual soldier responsibility. The ANA leadership's lack of trust in subordinates derailed the training program and extended the section certification from eight weeks to fourteen weeks.

However, after a change in leadership and a refinement of duties and responsibilities, the ANA artillery battery in Western Nuristan was now capable of providing timely and accurate artillery fires in support of the Afghanistan National Security Force. The leaders understood accurate artillery fires would defeat the enemy and reduce collateral damage and injury to civilians, and ultimately increase support from the local population for its security force. This is an important realization as coalition forces and Afghanistan National Security Force attempted to build credibility with the local government and the population.

Once the sections were certified, they maintained operational capability 24 hours a day. We had to rely on our brothers in arms on 13 to 14 November 2009. On these days, our mortar and gun sections were supporting our observation post during a fire fight with the Taliban. The ANA artillery section was prepared and ready to provide timely and accurate fires in support of a fire fight to retain control of Forward Operating Base Kalagush and the Observation Post Loyalty. On this occasion, the embedded training team observed a mortar team emplacing and guided the ANA observer on the target. The observer conducted a map spot of the grid location and relayed the call for fire to the fire direction center. The fire direction center computed the data manually, requested airspace clearance and sent the information to the howitzers. The howitzers were laid on target and received clearance to fire and achieved effects on target with the first round. This achievement represented the best validation of the training model we implemented with the ANA artillery battery in Area of Operations Steel.

Fires in counter-insurgency

The nature of the insurgency in Afghanistan proved more conducive to the use of indirect fires than in Iraq because the insurgency tended to base itself in rural areas in the mountains rather than in urban areas. That said, much metal is thrown around in Afghanistan. However, the true measure of success for our fires in counter-insurgency is not how much indirect fire was

used, but how much the use of fires was reduced over time. Therefore, much of our effort in coordinating fire support across the brigade area of operations focused on doing things to reduce expenditures. Among the initiatives we implemented were fielding the Meteorological Measuring Set-Profiler AN/TMQ-52 meteorological station, which conducted fire support team certification to reduce target location error, developing an escalation of force matrix for artillery fires and using an attack guidance matrix.

Fire support in restrictive terrain. During predeployment training at home station and the Joint Readiness Training Center, Fort Polk, La., we placed emphasis on the ability to achieve first round effects on the target. The forward observer's ability to locate the target accurately was the critical requirement in the restrictive and dominating terrain of Afghanistan. The majority of the main supply routes were dominated by higher elevation terrain, and the enemy typically initiated attacks from above our patrols on this terrain. Therefore, the forward observer had to mitigate target location and elevation errors to achieve first round effects on target.

We were fortunate to initiate our training at our home station, Fort Carson, Colo. The terrain in the training areas has similarities to Afghanistan's terrain. However, home station training practices tend to rely on fixed observer locations or known target locations on which observers have refined their skills during many observer training events. To negate the familiarity of terrain for the observers, it is imperative to force the observers to conduct moving shoots to acclimate the observers to conducting call for fires while on dismounted or mounted patrols. The majority of fire missions executed in Afghanistan came from either dismounted or mounted patrols.

Executing this deliberate training plan at home station forced the observer to update his observer location constantly, forcing the fire direction center to battle track constantly and remove the bad habits of garrison operations. Polar missions are the preferred method to call for fire by our observers. To ensure accuracy, battle tracking is vital, but we required a modification to the pertinent information in the call for fire. The observer had to include target elevation with the standard requirements for the polar fire mission. This allowed the fire direction center an independent check of target elevation and helped account for vertical interval.

Fire support in Afghanistan and the counter-insurgency environment required graduate-level expertise. Direct and indirect fires, used in combination, were essential to providing maximum fire power to the maneuver forces on the ground. Fire support could not be an afterthought of the maneuver commander or the forward observer. When direct and indirect fires were employed together in Afghanistan, it proved, time and again, the decisive element for defeating the enemy. The key to success was sound planning of fires before every patrol and rapid employment of those fires when engaged.

Field artillery operations

In our role as the direct support field artillery battalion for the brigade, we were tasked to oversee the standards of discipline and precision of the gunnery solution. This meant maintaining 24-hours-a-day, seven-days-a-week support to our maneuver elements across the brigade area of operations. Management of ammunition resupply and the five elements of accurate predicted fire required the staff's daily oversight. As the fight ebbed and flowed, the logistic staff had to monitor ammunition expenditures accurately to ensure we maintained adequate stock at all locations. Further, fires in the counter-insurgency fight required accuracy to reduce civilian casualties and help manage ammunition expenditures while also ensuring fires had the element of

surprise. This casted the battalion fire direction officer back in his traditional role of monitoring expenditure rates while also overseeing the maintenance of the five elements of accurate predicted fire.

Ammunition resupply in Afghanistan required close management. The remote locations of our firebases and forward operating bases made ammunition resupply problematic and the battery commanders had to manage expenditures and resupply requests down to the minute detail.

During the deployment to Operation Enduring Freedom, Task Force Steel had to resupply nine different firebases comprised of three different howitzers (M777A1, M119A2 and M198) and one 120-mm mortar. These firebases were located throughout the brigade's footprint. Resupply was difficult due to the nature of the terrain and the ebb and flow of combat, requiring flexibility throughout the formation.

Our administrative logistic operation center was collocated with the brigade support battalion and brigade ammunition transfer point, facilitating several things. First, it was the central hub for all supplies and facilitates receipt and onward movement to the firebases. Second, our administrative logistic operation center had two Military Occupational Specialty 13B Cannon Crewmember staff sergeants attached, and they ensured that artillery ammunition was configured correctly for proper shell-fuze combinations and propellant lots before pushing out to the firebases. Field artillery battalions no longer had a service battery and, thus, did not have artillerymen in the logistic companies (forward support companies).

The decision to attach two 13B NCOs proved critical, because it ensured ammo configurations and saved the firing batteries time by not calibrating different lots delivered by every combat logistics patrol. Due to the large number of propellant lots on-hand, we determined that a key task was lot management at the ammunition transfer point. Our 13Bs at the ammunition transfer point facilitate the shipment of single lots of ammo to reduce the need for constant calibration or the stockpiling of "trash" lots at firebases that tend to go unused. This eased a great burden from the batteries in ammunition management.

There were several times during the deployment that the ammunition transfer point went critically short during our combat operations. One instance was during the fighting at Combat Outpost Keating on 3 October 2009. During that fight, one firebase nearly ran out of M232 propellant and rocket assisted projectile rounds within two hours of the initial call for fire. The ammunition transfer point had a small number of M232 on hand and a small number of RAP rounds. Our immediate action drill was to cross-level ammunition from our firebases experiencing little to no action, and push it up to the fire bases heavily engaged. This enabled the firebase supporting the close fight at Combat Outpost Keating to maintain a constant stock level for seamless support. Initially, we pulled ammo from the closest firebase and coordinated with the brigade support operations to push additional propellants, RAP rounds and fuzes by air from outlying firebases. The threat from ground attacks along the main supply route forced us to move the ammo by air versus ground; plus it rapidly built the stocks.

The firing platoon supporting Combat Outpost Keating continued a steady rate of fire for several more days taxing our logistics system. However, the flexibility demonstrated by the brigade SPO, combined with our attaching the 13B staff sergeants to the administrative logistic operation center collocated with the brigade ammunition transfer point, ensured the Soldiers engaged in the desperate fight at Combat Outpost Keating had continuous fire support.

As artillerymen, we understood the requirement to compensate for nonstandard conditions through the five requirements of accurate predicted fire to ensure the artillery unit was capable of providing first round effects on the target for the maneuver commander. The firing platoons' ability to execute fires to standard in accordance with the five requirements for accurate predicted fire was what would produce the greatest effects on the enemy and further providing indirect fires to our maneuver elements.

Management of ammunition was also aided by ruthless adherence to standards of precision through the five elements of accurate predicted fire. The battalion fire direction officer oversaw the adherence to these standards within the battalion. Our emphasis on this enabled the battalion to reduce the expenditure of ammunition during our deployment. This aided the logistic system by reducing haul requirements for artillery ammunition; and expending less ammo by hitting the target helped enhance fighting in the counter-insurgency environment.

Target location

With available technology and a conventional environment, a trained forward observer can achieve effects with the first round on target. However, after years of conducting a counter-insurgency fight, we have seen a degradation of knowledge in the use of forward observer equipment combined with a lack of synchronization of fires with the scheme of maneuver among our field artillery junior leaders and forward observers. These deficiencies significantly contribute to target inaccuracies. Every patrol that leaves the forward operating base must conduct a fires rehearsal to ensure the maneuver element and observers understand the fire plan and what assets are available.

Firing unit location

Across our brigade area of operations, the artillery and mortars provided indirect fires to their supported maneuver task force. However, there was no requirement for the artillery to mass fires in Afghanistan.

That stated, the artillery and the mortars still had to have accurate weapon location in the fire direction center to ensure accurate range and deflection. The battalion did not operate the Improved Position and Azimuth Determining System for survey and did not operate on common survey for the reasons stated before. However, the howitzers and mortars required accurate survey. In our brigade area of operations, the batteries provided fifth order of survey to the indirect systems within their associated task force area of operation using Global Positioning System and Global Locating Positioning System.

Weapon and ammunition information

Ammunition management was the hardest task the platoon leader and platoon sergeant had to manage. Each howitzer in our brigade area of operations had its own ammunition basic load and, therefore, the crews had to manage the projectile family and propellants effectively. On average, each fire direction center maintained proper muzzle velocity and calibration data on 30 different lots of ammunition and propellants.

At the battalion level, the fire direction officer, in coordination with the battalion S4, ensured he properly distributed the ammunition and propellants to alleviate the unit maintaining 'trash' lots that were not in sufficient quantity to calibrate properly. When the battalion staff and the platoon

leaders managed the weapon and ammunition information properly, the fire direction center could compute accurate firing data.

Meteorological information

The common practice to provide meteorological information in Afghanistan was to use the Interactive Grid Analysis and Display System to fulfill this requirement. However, Interactive Grid Analysis and Display System was a predicted meteorological that was not interpolated. Therefore, we had not used the best available technology to provide meteorological data to meet the five requirements. Each artillery battalion had a Profiler system organic to the unit to provide more accurate meteorological information to the fire direction center. The Profiler system, in coordination with the Navy Operational Global Atmospheric Prediction System, was capable of interpolating atmospheric conditions across a 60 kilometer radius to provide real-time information, ensuring the artillery unit met the requirement of the five requirements of accurate predicted fire. We employed our Profiler system to provide meteorological data for our firing batteries. This provided better accuracy and contributed to a reduction in ammo expenditure as fewer rounds were used in adjustment. Our battalion fire direction officer took the lead in establishing the meteorological station in a location that would support the firebases that are spread over a wide area in the brigade area of operations and ensuring the data was transmitted in a timely manner for use by the fire direction centers.

Computational procedures

Fire direction centers were very efficient in the battalion at executing proper computation procedures and conducting independent checks before processing the fire mission. These checks included processing the mission on multiple systems, validating proper meteorological data, ammunition data and observe locations. It is imperative the fire direction center was the secondary independent check for target elevation. For this independent check, the fire direction center used Falcon View or Tactical Ground Reporting system Net. The fire direction centers in theater did not compute data manually as a secondary check because there was often little room inside the command post to set it up. However, they did use a second Advanced Field Artillery Tactical Data System and Centaur hand-held fire direction computer to conduct the independent checks.

Our first six months in Afghanistan were challenging and demonstrated that, while our training plan was sound for preparing for deployment, there were a number of areas that predeployment training could not adequately cover. The tyranny of the terrain tested our gunnery skills and maneuver elements as we began operating in our area. However, adhering to basic principles of field artillery employment and fire support planning can enable any unit to meet the daunting challenges of delivering fires in Afghanistan. Further, maneuver operations must incorporate elements of an indirect approach to leverage all available resources and remain true to the spirit of counter-insurgency operations. From our experience, the indirect approach we had taken to maneuver operations produced the best results within our area of operations. The key to this was setting the team early and ensuring those engaged in the maneuver fight understood this methodology so they can implement according to the intent.

Company Level Fire Support in Afghanistan During OEF IX and X

1LT Brian R. Buchholz

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Prior to 3rd Brigade Combat Team, 10th Mountain Division's deployment to Afghanistan in Operation Enduring Freedom IX, we spent months certifying our 13F's, fire support specialists, in core competencies. Although this training ensured that our 13F's understood their jobs at the platoon level, I found that fire support officers at the company level received little guidance.

In particular, lessons learned at the company level from previous Afghanistan deployments were not passed down. Former fire support officers had already transferred by the time of our arrival in theater, and our battalion FSOs' prior deployments were mostly to Iraq.

FSOs have three different types of duties: lethal, nonlethal, and command and control. Unfortunately, we spend more time learning about the lethal side of our jobs than the nonlethal side at the Field Artillery Officer's Basic Course. Almost no time was spent on command and control. FSO's need expertise at all three of these skill sets in order to affect their company's success in theater. This article will focus on the lessons learned about these three skill sets, and suggest ways future FSOs can be successful throughout their deployment in Afghanistan.

Prior to deployment, there are several courses of action that you can take to improve the lethality of your fire support team. The majority of your junior FISTER's will be relatively fresh from advanced individual training, and will have less experience calling for fire than an FSO just out of the officer basic course. Most of your senior FISTER's will have at least one deployment under their belts; however they may not be experienced at "call for fire."

Because of the shortage of 13F's Army-wide, it's likely that at least one of your senior 13F's will be a re-class. With this in mind, it's obvious the first way you can prepare for your deployment is by shooting as much as possible.

While actual live-fire mortar and artillery shoots can be a challenge to schedule, rock drills and simulators are also effective training aids for 13F's. Fortunately for my FIST, our commander allowed us time to train instead of forcing the FO's to train with their platoons every day. Spending time with their platoons is valuable for 13F's, however, several hours practicing call for fire or in a "call for fire" trainer is more valuable than a class on M240 maintenance.

After finding out that 3rd Infantry Brigade Combat Team "call for fire" trainer was available, our FIST team obtained permission to use it and trained there almost every day. As deployment neared, other FIST teams began to use the simulator, but by then our FO's excelled at call for fire and our scheduled simulator days were used to train the company's platoon leaders through team leaders. Each platoon's FO's assisted their platoon's leadership in this training. This helped two fold; first by re-integrating the FO's with their platoons, and second through developing the confidence each platoon had in their FO's.

If the simulator was unavailable, we conducted rock drills in the company area, hands on training with our radios and Lightweight Laser Designator Rangefinder and conducted classes on fire support planning. During counterinsurgency training in late August 2008, my fire support NCO, SSG Jason Sanders, and I identified fire support planning as a major weakness in our FIST. We

set out to correct this by conducting classes and practical exercises on maps. Next we progressed to practical exercises using maps and the simulator, and by the time we conducted the Platoon Fire Support Coordination Exercise in early November 2008, the battalion fire support officer commended our FIST as being the best at fire support planning in the battalion. This focus on fire support planning paid dividends in Afghanistan.

Lastly, attendance at the Joint Fires Observers Course also assisted greatly in our preparation for an Afghanistan deployment. Prior to Operating Enduring Freedom IX, I've been told that platoon leaders and forward observers regularly spoke with close air support aircraft and conducted ordnance drops. This has not been the case during OEF's IX and X. While air weapons teams have been willing to talk with and take guidance from platoon leaders, forward observers, and various NCO's, fixed-wing close air support consistently wants to be in communication with a qualified joint fire observer on the ground as well as the joint terminal attack controller at battalion headquarters. Attendance at the JFP course, greatly improves your usefulness at the company level, and ensures you will be on company level missions as part of the company tactical command post, instead of remaining in the rear at the tactical operations center. FSO's should do everything in their power to attend the course themselves and to enroll as many of their FISTER's as possible.

Our time spent learning fire support planning paid off during our deployment to Afghanistan, as our FO's planned targets, with minimal refinement on FalconView. FalconView is the mapping portion of the portable flight planning software, the foundation for the Army's Aviation Mission Planning System. We met collateral damage estimate requirements and ensured indirect fire assets supported every patrol. My FO's were able to bring their targets into the tactical operations center, have myself or the fire support NCO check them on FalconView, and then forward them to battalion for approval. This guaranteed that their platoon's specific concerns for each operation were covered by indirect fire assets.

Additionally, fire support rehearsals ensured each forward observer was ready and understood what to do in case of contact. Although this might seem to be common sense, conditions in the contemporary operating environment made these rehearsals absolutely essential to our success. Communications between maneuvering elements and their higher headquarters, for example, are extremely challenging in Afghanistan. Most FM radios are limited in range to several kilometers because of the mountainous terrain. Because of this, our company Fires net was not viable unless the patrol in contact was within eyesight of the company outpost. Our company command net on the other hand, was broadcast over a retransmission net and provided consistent communications throughout most of our area of operations. In a fire support rehearsal, this would result in one of our forward observers announcing a communications plan like this: "While the platoon leader sends up his initial contact report over (tactical satellite), I will try company fires. If Fires doesn't work, I'll send my call for fire over company command. If company command does not work, I will use Roshan (a local national cell phone company) or Thurya (satellite phone) to call the TOC Roshan or TOC Thurya."

Besides the traditional fire support rehearsal and communications rehearsal, we found rehearsing allocation of close air support and close combat attack assets was very valuable. On company missions, we initially have assets check in with either the company commander or myself. With air weapons teams, we usually keep the high bird under company control to maintain situational awareness of the entire battlefield, and push the low bird to the platoon in contact or the platoon

maneuvering to give them dedicated aerial support. We typically maintain control of close air support at the company level, as it's easier for me to speak to the aircraft on Fires, common air to ground, or Strike nets than a platoon forward observer, who is maneuvering with his platoon.

Rehearsing this allocation prior to every mission allowed us to operate smoothly and efficiently, and did not lead to everyone on the net attempting to "grab" assets, which sometimes hinders operations by having multiple Soldiers providing conflicting guidance to aircraft.

Restricted operational zone. The next lesson we learned was activating the restricted operational zone to ensure all aircraft are clear of the gun target line and to allow for fire. At first, we thought you could send the request to get the ROZ hot immediately prior to a fire mission. However, our area of operations was along the glide path for civilian aircraft flying into Kabul, so the battalion Fires cell and higher had to deconflict not only military aircraft but also civilian aircraft. This deconfliction process occasionally caused significant delays for fire mission.

Although not always possible, we've found that activating the ROZ prior to the start and deactivating it after the finish worked the best for short duration missions; however for longer missions this technique was not feasible. During longer duration missions we've found it useful to raise the ROZ prior to dawn and dusk, as many attacks occurred during those times. This allowed the platoon leader and forward observer on the ground to lay one of their indirect fire systems onto a target which greatly reduced the time necessary to get rounds down range.

Not all fire missions required the ROZ to be hot. For example, fire missions can proceed if the rounds' max ordinate is expected to fall below the coordinating altitude as dictated by the Air Force. If the ground commander can visually clear the airspace, and ensure no collateral damage within 500 meters of the target, he can assume risk and authorize the fire mission while the ROZ is in the process of getting hot. To take advantage of this rule and provide every patrol an indirect fire asset, each patrol takes with it a 60mm mortar.

Reverse echelonment of fire. Our most effective technique for bringing indirect fire onto the enemy was reverse echelonment of fire. As soon as the FO can accurately determine the enemy's location during contact, he adjusts the 60mm onto the target. While this is occurring, the FO calls back to the company tactical operations center and begins the process of getting the ROZ hot. If the target is in range of the company's 81mm or 120mm mortar, the ROZ will be hot and rounds will be headed down range within minutes of the initial contact. The clearance process takes longer for the 105mm and 155 mm howitzers.

We've found that calling for fire on a collateral damage cleared planned target can shave 10 minutes or more off the time it takes to get howitzer rounds down range. Because the target is already cleared, approval at battalion is almost instantaneous. Once the rounds arrive it's easy to make subsequent adjustments to the rounds and to get effects onto the insurgent's position and allow the infantry to maneuver upon them.

The time necessary to identify, conduct call for fire, and get rounds on target is roughly equal to the time necessary to receive additional assets in the form of close air support or air weapons team. If you're achieving good effects with your IDF assets, we've found it best to deconflict laterally or through maximum ordinate in order to fix the enemy with the mortars and allow the air assets to kill them in position.

If you're not achieving good effects however, I'd advise you to stop indirect firing and guide the AWT on target. AWT can be guided using direction and distance from your position allowing Apaches to get "eyes on" the insurgents. The insurgents regularly break contact when AWT arrive on station, so it is critical to attempt to deconflict the gun target line of mortars and use them to fix the enemy so the AWT can kill them in position. When the insurgents don't break however, you're facing determined enemy and a serious kinetic engagement will most likely ensue.

Interdiction of rocket, artillery, and mortar. The last lesson we learned on the lethal side was that interdiction of rocket, artillery, and mortar missions can be effective in preventing your combat observation post from coming under IDF attacks, but they are seasonal mission based off of effective pattern analysis of insurgent trends. When we arrived in theater in January 2009, we took almost no contact until April. From this, and our COP's location next to the Sayed Abad District Center, we assumed that we would not face a high threat of indirect fire, and did not conduct improvised rocket assisted munitions missions for several months.

Initially, this was a correct decision, but as the fighting season occurred, we took increasing number of IDF attacks. Using pattern analysis, we discovered that our high threat times for IDF attacks were between 10 a.m. and noon and 2 p.m. to 7 p.m. We responded with interdiction of rocket artillery and mortar shoots during these times, which significantly lowered the number of IDF attacks. IRAM also proved useful when we received signal intelligence of attacks on the combat observation post ranging from suicide bombers to direct fire attacks. Most times, when possible attacks were reported by signal and we conducted an IRAM shoot in response to the threat, we later received intelligence that the attack was called off because of heavy activity.

Information operations. Shifting focus to nonlethal operations, the most important thing you can do prior to deployment is attend the Information Operations School at Fort Sill, Okla. None of our company level fire support officers attended this school, so we had to learn information operations "on the job." In theater, the IO aspect of your job is very time consuming. You'll compile various reports and send them to the battalion fires and effects coordination cell; which is compiling all of the reports into more slides and sending them to the brigade fires and effects coordination cell. IO is important to the brigade, so if you don't stay on top of your IO responsibilities, you'll find that they will take up all of your time, and your fire support NCO will take over your lethal duties while you spend every day compiling late IO reports.

You'll spend some time developing talking points for your company in response to input from the line platoon's patrols. When not developing talking points, your IO duties will consist of broadcasting messages on a radio in a box or on a local national radio station. Sayed Abad District, has a radio station attached to the COP and district center, so we take messages to them (either pre-recorded or written down so an interpreter can record them at the station) talk for a little bit with employees and then give them the message. Most combat outposts do not have a local radio station, so they broadcast messages over their RIAB's. RIAB is a 250-watt transmitter – in a box – set up inside a base. The Army has distributed thousands of hand-crank radios that can pick up the station. In a country where only one in eight Afghans can read and write, this is powerful stuff. While RIAB's are easier to use because there's no dependence on an outside organization to broadcast IO messages (RIAB's use interpreters as the disk jockeys). I'd recommend that you use a local national radio station if possible. The local radio station will already have an audience and interspersing International Security Assistance Force's messages with local programming presents a better image than a purely American station.

Good things come to those who wait. The last lesson learned on the nonlethal side is patience. Everything on this side takes time. You can't send up a request for humanitarian assistance supplies three or four days in advance and expect results. You should send your request to the battalion S-9 at least a week, if not two weeks in advance. Once your request gets up to battalion, they have to process it, physically go to the supply yard to box up the supplies, wait until a convoy leaves for your COP and load the supplies onto the convoy. Because the fire support call supports your entire area of operations, it might take a week or longer for a combat logistics patrol to reach your combat observation post. So unless you submitted the request a week to two weeks in advance of your planned humanitarian assistance drop, you might not have the supplies on hand when the time comes.

It's also important to note that projects take a long time to complete. Most projects require at least three bids from local firms before a contractor is selected. These three bids can take weeks or longer to complete. After the contractor is selected, he has thirty days to start work. So what might be considered a small project will take at least three months to complete. One technique we've used has the executive officer assisting on projects as well as the fire support officer. You'll both be busy, but this team acting together results in constant coverage, and brings the XO's experience in contracting into the fold. The key to being successful with regards to various projects is staying in touch with the contractors and requiring updates on the progress on each project.

In between your hours spent on PowerPoint, and the weekly company mission, you'll assist your commander in command and control. Depending on the size of your COP, you'll probably spend six to 12 hours a day on shift as the battle captain. In this role, you'll monitor the situation in your area of operations and run the TOC. While you're on battle captain duty, you'll provide guidance and updates to your patrols as well as update the battalion TOC. When contact occurs and if the commander is not in the TOC, you'll have to request assets, push them to the unit in contact, keep battalion updated and fight the fight from the TOC until your commander arrives. This will be done in addition to your fire support duties of getting the ROZ hot, clearing collateral estimates, getting the mortar or howitzer crew ready, etc. When your commander arrives, he's going to want to know what's going on, as well as knowing what course of action you suggest. So, you're going to have to have a firm grasp of maneuver tactics in order to formulate several courses of action for your commander to evaluate. Once he arrives and you've suggested your courses of action, you can go back to your fire support duties while he takes charge.

While your C2 duties as battle captain are important, you can make an even greater contribution as an additional C2 asset in the field. On missions, you'll be right next to the commander. The commander, you and an radio-telephone operator or two will compose the company tactical command post. You'll be in a great position to maintain situational awareness, and unless you're talking to aircraft, your Fires net will be relatively quiet. Taking observer positions and coordinates and updates from your forward observers and shifting the guns won't take long. You'll be a great help to your unit if you maintain situational awareness and spell the commander from time to time. This'll free him up to leave the truck if mounted, and leave the C2 node if dismounted. Furthermore, as combat missions run 24 hours a day, you're going to get very little sleep on extended missions. If you're competent at C2 however, you can be a great help to your commander and cover down as the C2 element at various times throughout the day and night. While covering C2, the commander can get a few hours of sleep, attend a Shura, or just take a break to have lunch or dinner.

“Fire support is a constantly evolving world. The duties have changed greatly over the past few years...”

The only thing consistent is change. Fire support is a constantly evolving world. The duties have changed greatly over the past few years and vary between Iraq and Afghanistan. Although not traditionally a task of the fire support officer, I suggest that FSO’s learn as much as possible about maneuver tactics in order to help their company as an additional C2 element. As it’s becoming a core competency, I recommend that FSO’s learn from the civil affairs personnel all they can about the projects process. Projects take a long time, and your battalion is going to want results quickly, so you must stay prepared and stay on top of projects in order to be successful. You’re going to have to plan ahead to make progress in your nonlethal duties. If you can attend the IO school before deployment I’d highly recommend it. IO has been challenging for us as we weren’t fully trained in it. Better training prior to deployment will help you in this.

Lastly, I’d suggest that your most important duties are still your lethal tasks. If you can attend the JFO School prior to deployment, train your FIST on the CFF and Fires planning, get the ROZ hot prior to missions and high risk times, and use reverse echelonment of fires to mitigate the time necessary to get fire mission approval, you’ll be a great asset to your unit. By taking the suggestions I’ve made in this article, you’ll be better prepared for your lethal, nonlethal, and command and control duties in the contemporary operating environment in Operation Enduring Freedom.

Return of the King

LTC David Sink and CSM Dennis Woods

Reprinted with permission from the November–December 2010 issue of *FIRES*.

In early 2009, with a deployment to Afghanistan in support of OEF X looming on the horizon for 4-319th Field Artillery Regiment paratroopers, we knew it was time to take stock in our heritage as gunners and Redlegs. We knew we needed to train our paratroopers for a different war than most of our senior field artillery leaders have experienced. Today war places the responsibility on our junior leaders from those young section chiefs, to platoon sergeants and platoon leaders. As the direct support Fires battalion for the 173rd Airborne Brigade Combat Team, our mission is to provide accurate, timely, and deadly indirect Fires for our fellow warriors and to synchronize the lethal and non-lethal effects on today's battlefield.

Although our junior leaders and battery commanders have spent more than half their Army career in combat, most of those tours included tasks other than providing fire support. So taking this into consideration, we made the basics of gunnery and fire support a top priority in our battalion during the train up phase of our deployment. These basic skills included manual and digital gunnery, fire direction computational procedures, management of ammunition and muzzle velocity variations, crew drills, the advanced levels of survey, alternate methods of lay, direct fire, air assault and airborne operations, hip shoots, 2x gun raids in support of special missions and direct fire procedures during day and night operations in preparation for the defense of combat outposts. To ensure this battalion executed a vigorous, and comprehensive training program that promoted accomplishment of our fire support missions and focused on leader development, we wanted to take the opportunity during our 'dwell' period, to mold a team of gunners whose skills surpassed those of all potential enemies. We knew our junior leaders needed to be capable of executing not only their own jobs but also those of their leaders. Crucial to meeting the objective as with any crew-served weapon system, was the requirement for cross training.

As a M119A2 Fires battalion, the M119A2 is a tremendous weapon which provides the means for rapid and accurate indirect Fires for the infantryman in support of 'troops in contact' or in a defensive measure using direct fire procedures. In order to accomplish this we continued to review and rehearse M119A2 basics, refine our skills, and provide expanded training opportunities.

"For today's war, cross training not only involves training on your primary weapon, but also sometimes includes learning a completely different system."

For example, our paratroopers and cannoneers are required to use the M119A2, the M777A2, and the 81mm or 120mm systems. That can be a lot of training, so in order to accomplish it in a timely manner we first identified common skill sets that applied to all indirect fire systems. By building on this base of 'standards of precision,' it allowed us to add different weapons and capabilities.

During the first five months of our reset phase, we fired more than 3,000 rounds, conducted six airborne operations, three drop-zone missions with heavy drop platforms, performed one tactical jump using the Adverse Weather Aerial Delivery System, and six platoon RAIDs using CH-47

Chinook helicopter support. To add complexity and realism to the training, we incorporated engineers from the 173rd Brigade Combat Team's Special Troops Battalion and constructed a fire base, with emphasis on forward operating base defense, direct fire procedures, and gun raids.

We also conducted ground assault convoys in support of illumination missions while a platoon within the firebase conducted the high explosive portion of the coordinated illumination. This exercise exposed the battalion to decentralized operations at the lowest levels, and provided additional training to our fire direction center's incorporating fire missions with a platoon outside the perimeter and facilitated the training of the BCTs forward observers.

The concept of the operation in order to get our junior leaders trained and ready to fight in a decentralized role was simple. As senior leaders in the battalion, we were stakeholders in the structuring of a training 'campaign plan' that would result in the fine-tuning of 'core' competencies, basic gunnery, and individual skills. None of this would have been possible without dedicated leadership that continued to focus on the battalion training priorities. Command guidance from brigade, review of the METL, configuring a long-term training plan, and establishment of a clear 'end state' has resulted in a winning solution fully supported by the brigade and battalion leadership. This battalion has a reputation; that continues to be validated with action in combat. We are truly 'King of the Herd.'

How we trained. Our training cycle started with Reset Phase IIIA in January 2009 with two internal battalion-level field training exercises, and culminated with Phase IIIB with a 173rd Airborne Brigade Combat Team pre-mission readiness exercise gunnery rotation to the Joint Multi National Training Center. During those five months, the battalion spent eight weeks at the JMTC focusing on the basics of our field artillery tasks with a small flavor of non-standard mission and warrior tasks.

Howitzer section certification, fire direction training and certification, gun/FDC crew drills, enforcement of both manual and digital computational data, alternate methods of lay, advanced survey operations, platoon level air assault raids, drop zone missions, and direct fire operations both day and night, and executing the perishable skills of operating within a fire base were all part of the plan.

For our first three-week FTX, we began with the basics. It included all batteries focusing on small arms ranges with the intent to train, zero and qualify paratroopers on personal weapons as well as crew served weapon systems. The battalion also conducted airborne operations that included the use of heavy drop platforms with the task of assemble on the platform, derig, place a howitzer into operation, and fire a mission in support of maneuver. We utilized this period to conduct Fires support team certification with the two maneuver battalions and a reconnaissance, surveillance, and target acquisition squadron. The maneuver commanders, the airborne battalion combat team fire support element, and the FA battalion commander (fire support coordinator) supervised, advised, and ensured training and certification were not just a 'check the block' event.

Finally, the battalion shifted its focus to section and platoon certification with an introduction to 105mm howitzer direct fire procedures, 'direct lay and killer junior.' We trained everyone to standard on direct fire while using thermal sites and lasers, which allowed us to effectively engage dismounted enemy troops at night.

Defending our positions with the largest weapon available at the greatest range possible allowed us to transition from defending at the far tree line, to defending at the far ridgeline, at a time when the enemy is most likely to attack. This training would prove life saving to hundreds of our fellow comrades just one year later. During our combat tour in Afghanistan both batteries employed howitzers in direct fire from a defensive position.

Developing experience. While in the local training areas, the firing batteries focused on the basic field artillery skills necessary to certify howitzer sections and fire direction centers. For the NCO's, that task was to become subject matter experts on their weapon systems. The NCO's experience base would be narrow but extensive where it concerned their assigned duties. The officer's task was to develop a wide experience base and learn enough to understand and operate the unit's systems. This division of labor ensured that when officers reached command they knew enough about the total system to operate a unit. This method nested nicely with a normal span of control. The officers planned and organized and accomplished the units' missions by employing the units' subject matter experts, the NCO's. The NCO's were also expected to run the daily operations without their officer counterparts.

During this timeframe, the battalion also instituted a NCO re-education program with the intent of redeveloping a deep bench of artillery and NCO skills. As part of the adaptive leadership program, every platoon had an extra fully-certified section chief, gunner, and ammo team chief. As additional cross training, we required every section chief certify on basic gunnery sergeant task, as well as every platoon have at least one section chief who successfully completed the platoon sergeant certification test.

Our senior NCOs and platoon sergeants also routinely performed the duties of a first sergeant in both field and garrison environments. First sergeants also performed the duties of a battalion command sergeant major ensuring the battalion had a deep bench of cross-trained NCO talent.

For this to occur successfully, leadership and discipline were enforced, and the making of agile and adaptive leaders began to show progress within the organization. This set our NCOs up for success by having the ability to assume higher levels of responsibility when called on, which would later be evident during the deployment.

While our firing battery's focused on what they do best, providing 'steel rain,' our HHB focused on establishing the command and control structure of the battalion's tactical, administrative and logistical operation centers as well as developing the tracking and reporting standards for the battalion. Our forward support company, Golf Battery, continued to sustain the battalion through logistical support that included maintenance, field feeding, and distribution of supplies and ammunition.

After our final FTX, we were able to conduct two additional airborne operations, enhancing our paratrooper proficiency, but were also able to use the available resources, and add to the complexity of the mission by adding a heavy drop platform with M119A2s to the operation. This allowed our young paratroopers to accomplish a drop zone mission; one of the reasons they joined the 'airborne artillery.'

The airborne drop zone mission was a straightforward mission, but required detailed planning. In the summer of 2009, for the first time in this new battalion's history, we executed a successful drop zone mission with rigor, enthusiasm, and precision. The paratroopers were able to drop

from a C-130 with combat equipment, assemble on the platform, during it, lay and safe the howitzer, establish communications with the observer, and be 'in-order' with data on the gun within 25 minutes.

Our end state was a professional, lethal battalion trained to execute its assigned indirect Fires or non-standard mission.

“By establishing a solid grounding of basic individual warrior tasks, we were able to execute command and control across the full spectrum of operations, with paratroopers prepared for the deployment.”

Always flexible. But in the few months prior to our deployment, the 173d ABCT and 4-319th AFAR were once again called upon to be that flexible, adaptive organization and were told to prepare to deploy with M777A2s (155mm), even though we were organized as a M119A2 (105mm) howitzer battalion. We had to quickly transform into a two-battery, six-platoon, six-FDC battalion, capable of decentralized operations in support of forward operating bases and combat outposts throughout an area of operation using M777A2s and M119s.

We signed for a few M777A2s, from 2nd Stryker Cavalry Regiment, Howitzer Squadron, and then received a 30-day NET training from Fort Sill, which included live-fire training and certification on this 'new' system prior to our mission rehearsal exercise at the Joint Multi-national Readiness Center. This training required our NCOs and officers to step up to the plate and show adaptive leadership we so regularly enforced. Our NCOs now had to become the 'expert' in a weapon system that they had never deployed with. Our FDCs had to re-learn 155mm ammunition, and conduct special missions with two different systems while occupying one position.

Additionally, in order to build two extra fire direction centers, as required by our new mission, we had to take our 13Ds (Fire Direction Specialists) out of the battalion TOC and assign them to batteries. This enhanced the Fires capabilities within the districts and provinces of our area of operation, Task Force Bayonet.

While the training piece posed a challenge, the manning requirement necessary to accomplish this task was also difficult, mainly due to the fact the battalion is built on 16 x 6-man sections. With the transition, we were required to man numerous M777A2s with the requirement of a 10-man section.

When we initially arrived in theatre, we were task organized as a maneuver battalion and Fires battalion. Later on we would transition to police trainers for two provinces along with maintaining the requirement to provide Fires capability across the AO. We had a M777A2, and M119A2 located at six command outposts to provide decentralized Fires and overlapping coverage for the entire AO Bayonet. Having both of these systems on a COP gave us the flexibility in special munitions, and the ability to compensate for the minimum and maximum range issues that we would encounter later in the deployment. Using the M119A2 and M777A2 in tandem also provided the ability to tailor desired effects on a given target. In some troops' contact fire missions, the smaller 105mm high explosive munitions allowed for closer Fires and created less collateral damage. During our deployment to Afghanistan, on numerous occasions our training was validated with successful combat actions.

Training validated in combat. In one particular fire fight involving our Alpha Battery, we had one gun crew use both the M777A2 and the M119A2. The engagement started with a dramatic direct fire mission using the 105mm against enemy dismounts; as the fire fight developed, an indirect counter-fire mission against an insurgent rocket position was ordered. For this mission the lone artillery crew sprinted from the 105mm M119A2 and manned the 155mm M777A2. Firing high explosive rounds, they destroyed enemy crews as they attempted to emplace additional rockets.

As the fight continued additional enemy contact developed in the vicinity of a mosque. In order to support this troop's 'in contact' mission the M777A2 was employed for illumination and the M119A2 for high explosive. As a learning organization able to accept change, we were able to support a delicate mission on restricted terrain. With cross-trained FDC's and cannon crews, we were able to employ two guns in one fight with one crew.

A second combat operation validating our training plan occurred involving our Bravo Battery. The battle that evening began as a standard Fires mission for 1st Platoon, Bravo Battery, 4-319th AFAR, as they supported the paratroopers of C Troop 1-91 CAV, with indirect fire support coverage while they were out on a scheduled mission. During this 11-hour mission, the day turned to night, and an enemy ground attack on the outpost developed. Using civilians as a human shield, insurgents slipped from crowded mud houses and gathered for an attack on our combat outpost, despite being crushed a month prior with 18 rounds of direct fire delivered by a thermal sighted cannon. That fight consisted of a line of sight artillery duel (Napoleonic style) against four separate enemy positions. Our lone 105mm slugged it out with one rocket and two machine guns breaking the enemy attack. Learning from that experience, the enemy began this assault by suppressing the artillery position first with machine gun fire.

As this ground assault increased in force, artillerymen hurriedly ran uphill to again use the M119A2 cannon as a large bore, crew-served weapon. As they moved up hill, enemy fighters used high-walled sunken roads surrounding the outpost to approach to within 460 meters. From defilade positions, they fired PKM automatic weapons and RPG's against our gun position. As we raced up the hill, they entered a covered trench shielding them from the grazing fire overhead. In the dark confines of the trench, paratroopers were ordered to man machine guns, and the cannon gun pit. With the section's machine gun now added to that of the guard towers, small arms fire was directed at the closest enemy position.

Overhead in the gun pit, rounds skipped off of the howitzer. As bullets continued to zip over the covered trench, an unidentified fragmentation device detonated inside the HESCO walls of the gun position. As the cavalry troops' first sergeant and commander organized the defense, the machine gun Fires inability to penetrate or suppress the enemy's position was realized. Using the forward guard tower and local camera array as observers, artillery support was requested.

As paratroopers assembled in the trench as if on a parachute jump, the command "Over the top; fire mission!" was given. With rounds zipping through the night air, tracers seemed as if they were only inches away. As men entered the open ground, the tainted smell of a fragmentation burst still hung in the air. Employing a thermal weapon sight and a laser aimer on the GELON mount, a 'Killer Junior' mission was conducted. This technique calls for firing high-explosive projectiles with time fuses set at two seconds or greater to burst approximately 30 feet off the ground at ranges of 200 to 1,000 meters. Meanwhile, searching for targets through the sight, the gunner found enemy fighters repositioning forward on the sunken road.

Within seconds of the first rounds detonation, the volume of enemy fire was reduced. On this engagement, unlike others where survivors often remove the dead and dying, this time, no one was left. Controlled artillery strikes had done an ugly job in a crude manner. Enemy dismounts not under artillery fire quickly withdrew.

Accomplishing firsts. As a new airborne artillery battalion, this combat rotation accomplished a lot of “firsts” for the 4-319th:

- The first Excalibur round fired for the battalion.
- Even though other units have employed the GELON in combat it was the first use of thermal sighted cannons in defense, while employing direct fire and “Killer Junior.”
- First line-of-sight artillery duel involving American guns since the Spanish American war.
- First use of training rounds in combat as a less lethal method of adjustment.
- Our police training plan was adopted as the Regional Command East standard.
- Our resiliency training program, One Shot One Kill, was adopted division wide.

Warrior ethos. The 173rd Airborne Brigade Combat Team and the 4-319th have produced a warrior ethos that resounds across the organization. The complex computational procedures and theory of gunnery are all perishable skills. Those who grew up in the ‘days of training’ are slowly dwindling from our ranks. Today’s Soldiers, NCOs, and young officers only know training for the next deployment. Our ranks are only as good as our last deployment; whatever mission they may have had. As our new leaders continue to rack up tours in Iraq and Afghanistan the most prominent problems occur when ‘good enough’ becomes the standard. As leaders in our organizations we must enforce the standards, starting with the basics. It’s up to the senior leaders within this branch to make it known to our higher HQ, that returning to the basics during the training phase prior to the next deployment is key, not only for the next fight, but for the next generation of professional Redlegs. Training for both lethal Fires and nonstandard missions can be accomplished, but only after having leaders who are involved in setting the priorities, with clear guidance, intent, key tasks, and a feasible end state.

Train hard, fight hard! King of the Herd, Sky Soldiers, Airborne!

3 x 2 Distributed Rocket Artillery Operations

LTC Joseph J. Russo

Reprinted with permission from the March–April 2010 issue of *FIRES*.

“Any use of force generates a series of reactions. There may be times when overwhelming effort is necessary to destroy or intimidate an opponent and reassure the populace. An operation that kills five insurgents is counterproductive if collateral damage leads to the recruitment of 50 more insurgents.”

— Marine Corps Warfighting Publication 3-33.5, *Counterinsurgency Operations*

As U.S. and coalition forces enter their ninth year of combat in Afghanistan, the current operating environment reflects a complex mix of both kinetic operations and unique counterinsurgency considerations. Fires must be arrayed to enable the mobility and responsiveness of mortars, the massing effects of cannon artillery on enemy concentrations and air- and ground-delivered precision fires on high value targets, time sensitive targets and targets requiring low collateral damage. As the protection of the population and sensitivities toward civilian casualties become center-pieces to counterinsurgency operations in Operation Enduring Freedom, the ability to assess requirements appropriately and effectively, position and employ assets is critical to the success of this dynamic three-block fight. The M142 High-Mobility Artillery Rocket System brings a revolutionary range and precision fires capability to both Operation Enduring Freedom and Marine artillery arsenal in general.

In May 2008, 5th Battalion, 11th Marine Regiment, successfully completed its new equipment transition from the M198 medium towed howitzer to M142 HIMARS. While physically fielded, trained and capable of employing the new system and its associated equipment, employment concepts arguably remained entrenched in legacy cannon tactics, techniques and procedures.

Examining existing U.S. Army Multiple-Launch Rocket System doctrine, Army, Marine Corps and British HIMARS employment lessons learned from Operation Enduring Freedom and possible future contingencies across the range of military operations, 5th Battalion, 11th Marine Regiment, adjusted its training and organizational structure to support the requirements of decentralized command, control and sustainment of its subordinate batteries. From June through August 2009, 5/11 Marines conducted a series of command post and live-fire exercises to assess and validate decentralized, precision rocket fires in a highly distributed operating environment.

Battalion-level distributed operations July 27 to July 29, 2009. The battalion dispersed its batteries between Camp Pendleton, Calif., Marine Corps Air Station Miramar, Calif., and Naval Weapons Station Seal Beach, Calif. Initially focused on the validation of long range tactical satellite and high-frequency communications, these exercises matured to the level of live-fire execution over an operating area in excess of 150 miles.

Upon completion of these exercises, firing battery commanders were directed to reorganize their units into three firing platoons of two launchers per platoon (designated 3 x 2), and a general assessment and validation of personnel and equipment requirements was undertaken across the battalion.

Platoon-level distributed operations October 14, 2009 to November 1, 2009. The 5/11 Marines' platoons operated from five separate locations at Camp Pendleton, Marine Corps Air Ground Combat Center Twentynine Palms, Calif., Marine Corps Air Station Miramar, Marine Corps Air Station Yuma, Ariz., and the Naval Shore Bombardment Training Area at San Clemente Island, Calif. Rocket artillery liaison teams were employed with Marine Expeditionary Forces Fires, 1st and 5th Marine Regiments.

During this assessment, 5/11's Headquarters Battery was reorganized and distributed in support of independent firing battery operations. Administrative and logistics capabilities were task organized into direct support teams, providing platoon-level units with the necessary support functions to operate semi-independently throughout geographically dispersed locations. The battalion combat operations center was reorganized to replicate a 24-hour Marine air-ground task force-level fires cell. The replicated fires cell, operating from the I Marine Expeditionary Forces Battle Simulation Center at Camp Del Mar, was capable of both voice and digital long-range communications through a tactical satellite and other high frequency systems, and exercised control of both the command post exercise and live-fire operations of the battalion's deployed platoons, distributed across nearly 500 miles. It further conducted a long-range command post exercise with 2nd Battalion, 14th Marines (Reserve HIMARS battalion), in Grand Prairie, Texas. This training culminated during the division's Steel Knight 09 exercise with the live firing of 12 rockets at Marine Corps Air Ground Combat Center Twentynine Palms by a two-launcher platoon, which was controlled by the I Marine Expeditionary Forces fires rocket artillery liaison team within the fires cell at Camp Pendleton. The battalion headquarters' role transitioned from command, control and sustainment of battalion-level operations to dispersed, task organized support of platoon operations and facilitation of distributed training.

Introduction and employment of rocket artillery liaison teams. Marketing the M142 HIMARS' capabilities to supported maneuver commanders was among the greatest challenges initially faced with its fielding. Now capable of providing deep, precision fires, previously only delivered by air platforms, HIMARS provides a dramatically increased fires capability and options to the Marine air-ground task force. Recognizing the need to provide rocket expertise, mission processing facilitation and long-range communications capabilities validated in the battalion's command post exercises and field exercises, 5/11 Marines reorganized its liaison personnel into four-man rocket artillery liaison teams. Their training focused on the capabilities listed in Figure 9-1. Constructed to provide flexible rocket mission processing expertise, application of a rocket artillery liaison team at the appropriate force fires coordination center or fire support coordination center is deemed essential to facilitate timely and effective rocket fires integration.

Long-range communications. Having identified the requirement for sustained, long-range voice and digital communications, the allocation of secure tactical satellite and high frequency communications was assessed as operationally critical. The allocation of dedicated satellite time, bandwidth, frequencies and appropriate equipment must be viewed as a necessity to harness and integrate the capabilities of this weapon system fully. Simply put, the autonomy and complexity of the newly developed long-range communications infrastructure and distributed operations concept entail a need for augmented communications equipment, prioritization, supervisors and operators. A table of organization and equipment change request, identifying an additional 45 Marines, representing key supervisory and military occupational specialty critical billets, an additional technical representative and a suite of long-range communications equipment has been submitted to address these requirements.

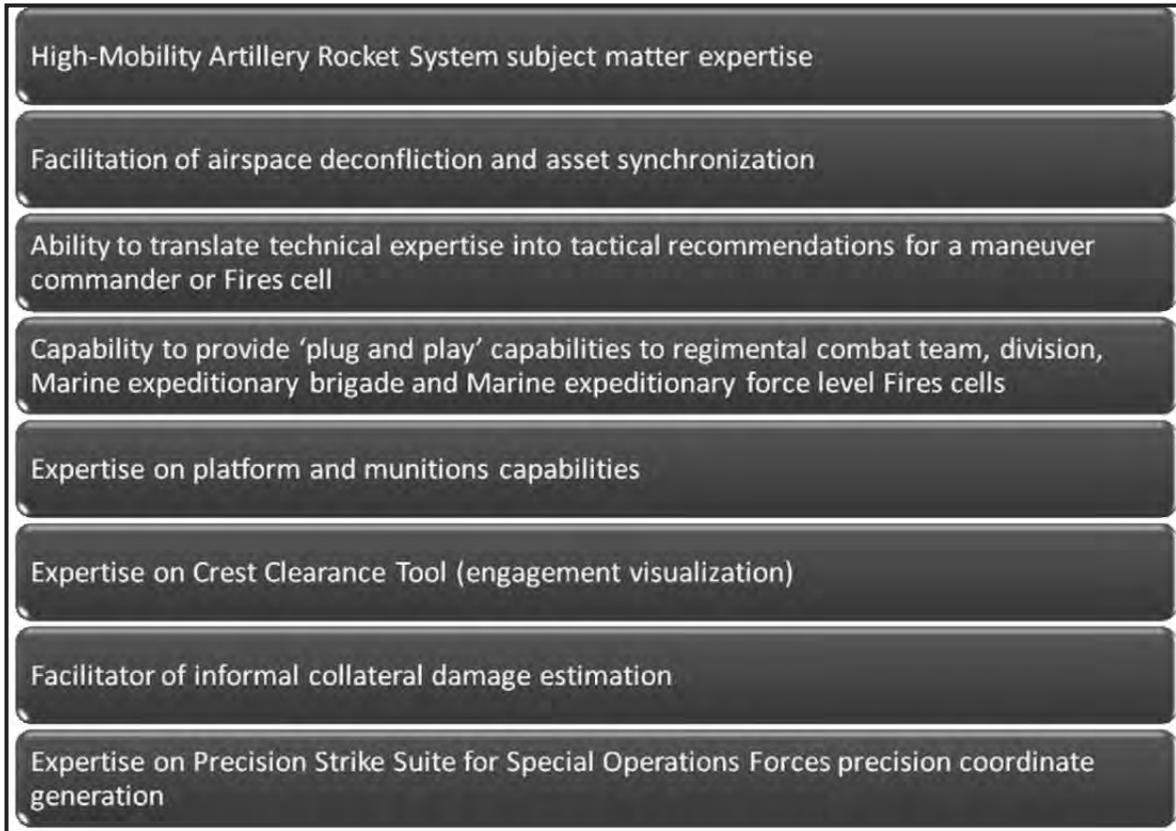


Figure 9-1. Rocket artillery liaison team training focuses on the capabilities above.

Strategic lift and ground convoy raid capability. In each of its battalion-level exercises, 5/11 Marines conducted fly away training and embarkation preparation for raid employment by both C-130 and C-17 aircraft platforms. Establishing a strong working relationship with the C-130 squadron Marine Aircraft Group-11 Marine Corps Air Station Miramar, these aircraft raids have included movements to the expeditionary airfields at Marine Corps Air Ground Combat Center Twentynine Palms and San Clemente Island, as well as the airfield at Marine Corps Air Station Yuma. The significant range capabilities of the system require minimal movement of the launchers to range targets throughout an area of operations. As such, numerous established and expeditionary airfields throughout an area of operations potentially offer adequate, secured position areas from which to provide coverage of all contingencies. Additionally, each 5/11 Marines' platoon has conducted considerable training on ground convoy/improvised explosive device defeat movements to support off forward operating base/camp vehicular raids and movements. To conduct raids, either by air or ground, and while mission, enemy, terrain and weather, troops and support dependent, augmentation of the raid unit by non-organic security must be considered based on the operating environment.

Resupply operations. The current HIMARS battery table of equipment allocates 12 resupply supply systems. Comprised of a resupply vehicle with organic hydraulic crane capability and a towed resupply trailer, each resupply supply system is capable of transporting as many as four rocket pods, each carrying six rockets or one Army Tactical Mission System missile per pod. Each launcher is supported by two resupply systems capable of transporting a total of eight pods.

The launcher transports a ninth pod. In extraneous conditions, pods can be double stacked to double the lift capacity. The battalion also has developed medium tactical vehicle replacement/logistics vehicle system bed “kits”. These kits are intended to modify medium tactical vehicle replacement/logistics vehicle system truck beds with pod “shoes” to enable the transportation of rocket pods.

Training has been conducted with the Marine Logistics Group to enhance battery-level organic helicopter support team capability to load and offload heliborne, sling loaded resupply operations. Each battery will maintain a helicopter support team-trained capability at each of its three distributed platoons. Further, it has been determined through the spring and summer exercises and assessments that, as the artillery regimental logistics trains typically are focused forward in support of its cannon battalions, it is likely they will be separated by significant and arguably unsupportable distances from HIMARS units. The Marine Logistics Group or designated combat logistics battalion, therefore, would best be suited with the requirement to resupply rocket ammunition. Marine Logistics Group familiarization training regarding rocket ammunition handling and resupply operations is planned within the battalion’s fiscal year 2010 training schedule.

Conduct of HIMARS 3 x 2 operations. Recognizing the range and fire power of the HIMARS battery and assessing requirements in support of current and future operations, the ability to operate HIMARS as 3 x 2 formation was found to be sound operationally. To adequately man a HIMARS firing battery for sustained 3 x 2 operations, the current table of organization and staffing goal were assessed as inadequate to provide sufficient supervision in several key billets. Supervisory billets such as platoon commander, fire direction officer and operations chief positions require the augmentation of additional Military Occupational Specialties 0802 Field Artillery Officers and 0848 Field Artillery Operations Chiefs. Additional communications infrastructure requires enhanced radio operator and technician augmentation as well.

As HIMARS tactics, techniques and procedures continue to develop, the range and precision capabilities of rockets in the Marine artillery arsenal must be understood. HIMARS should not be viewed simply as a long range cannon. Rather, the system should be viewed as a long range, precision fires platform. While HIMARS can and should respond to close fight maneuver requirements, its worth on the battlefield must additionally be felt in its range and precision capabilities. Target types should be such that a low collateral damage estimate, Global Positioning System-guided, high-explosive unitary munitions are the effect of choice. The penetrating effects of its vertical angle of fall and delay fuse capabilities make it uniquely capable of destroying reinforced mud/brick positions while producing minimal collateral damage to surrounding structures.

Future initiatives. There are several future initiatives to orient and train maneuver units on HIMARS and its employment.

Mojave Viper integration. Mojave Viper exercises offer a superb venue to orient and train maneuver units throughout the Marine Corps. With the establishment of the rocket artillery liaison team concept, the entry argument for access to rocket fires is established. When fully trained, the rocket artillery liaison team provides both mission processing tactics, techniques and procedures, as well as professional military education on capabilities and logistical requirements.

MARSOC/ANGLICO/NSW Training Integration. Having developed relationships with each organization, the continued integration of Marine Special Operations Command, Naval Special

Warfare and air naval gunfire liaison company sensors to distributed operations is deemed essential. Furthermore, the integration of the unmanned aerial systems as a viable rocket observation platform requires development.

Development of distributed operating areas. While working to develop viable rocket artillery firing areas further aboard Camp Pendleton and San Clemente Island, future exercises will include long-range raids and command post exercise training from Naval Air Station, El Centro, Marine Corps Air Station Miramar, Marine Corps Air Station Yuma, Naval Weapons Station Seal Beach, Naval Training Center at Warner Springs, the U.S. Army Reserve Center at Camp Roberts, Nellis Air Force Base, and the expeditionary airfield at Imperial Beach. To truly demonstrate the system's capabilities, live-fire Guided Multiple-Launch Rocket System exercises also must be enabled. See figure 9-2 for some additional initiatives.



Figure 9-2. Live-fire Guided Multiple-Launch Rocket System exercises must also be enabled. Additional initiatives includes the above.

Revolutionary in its capabilities, the M142 HIMARS brings a level of range and precision lethality never before seen in the Marine artillery arsenal. As with so many newly developed systems, interest in HIMARS has grown as its capabilities have been demonstrated in both peace-time training and in combat. With the resources, advocacy and training integration necessary to employ HIMARS effectively, innovative development will continue to maximize its worth across the full spectrum of conflict.

82-mm Mortars: Working with Afghan National Army Mortar Teams

MAJ Michael J. Wood

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During the past two years, many Afghan National Army formations began taking the lead on executing missions with International Security Assistance Forces in Afghanistan. Even though the ANA is still dependent on coalition support for fires, air support and medical evacuation, the ANA is capable of putting far more soldiers into an area during an operation than any International Security Assistance Force formation in Afghanistan. ANA soldiers are beginning to occupy combat outposts in platoon- and company-sized formations without International Security Assistance Force or other coalition forces.

Inevitably, these formations will bring some or all of their organic 82-mm mortars. Unfortunately, not all ANA elements are proficient in the use of their mortars. In addition, many International Security Assistance Force forces, being western armies, do not fully understand the capabilities and limitations or the gunnery aspects of these very important Soviet-designed ANA company-level fire support weapons. The importance of mortars to a company commander cannot be underestimated — and the ANA is no exception. However, with training and preparation, the ANA can increase the effective use of its mortars and can rely more on their own fire support and, hopefully, less on International Security Assistance Force fire support assets.

This article lays out some of the specific issues the ANA faces in the use of its mortar systems, focusing specifically on its 82-mm mortar. This article, in particular, addresses various equipment and ammunition issues, gunnery issues and important safety considerations that must be taken into account when working with the 82-mm mortar. Next, specific examples of how the ANA overcame some of these problems at the Spera Combat Outpost in eastern Afghanistan. Finally, some training techniques and recommendations are laid out to aid personnel to help the ANA improve its mortar gunnery. This article isn't a comprehensive guide to ANA 82-mm mortar gunnery. My intent is only to give future ANA advisors and International Security Assistance Force fire support personnel insight into helping the ANA use its company-level 82-mm mortars.

Description. The ANA uses Soviet-designed 82-mm mortars. Though the mortar is similar in capabilities to the U.S. 81-mm mortar, the actual weapon system has some significant differences. The A-frame supporting the mortar is not as stable as the U.S. 81-mm mortar. The base plate also is different. Unlike the U.S. 81-mm mortar, the 82-mm mortar base plate does not lay flat on the ground and set itself after one round. Rather, it is angled slightly and weighted with sandbags. This seemingly minor difference can cause significant delays in firing when the mortar has to make a large azimuth shift during fire missions.

Another difference is the high-explosive range data plate on the mortar itself. This plate actually contains the elevation settings required for a given charge and range (in 100 meter increments). Essentially, it is a very limited high-explosive range tabular firing table data. If this plate is not present, unless the gun crew has the data written down and with them, then the crew has no way to determine proper elevation and charge data for high-explosive based on the target range.

Finally, the 82-mm gun sight is azimuth based and uses the 6,000 mil system. Because it does not use any type of common deflection and it cannot be “floated,” the gun must be laid at a known azimuth. The lack of a “floating” sight or common deflection causes certain azimuths

to be blocked because the tube will be in the way of the sight. Because the ANA has no firing computers or comprehensive tabular firing tables, it is strongly recommended that the gun be laid at zero mils. To lay the gun on any other azimuth adds additional calculations into the firing data computations that are completely unnecessary and could slow down fire mission processing.

A final complication to the ANA use of the gun sight involves the nature of the Dari or Pashtun written languages. The ANA read from right to left while the mortar azimuth and elevation setting numbers are supposed to be read left to right. When working with the ANA mortar team, it is absolutely critical to verify its gun sight data until it is clear the team knows how to read the gun sight correctly.

Fire direction and gunnery. The ANA fire direction is quite primitive. Most ANA mortar chiefs simply lay the gun on azimuth with the target they want to engage (therefore, the mortar team must be able to see the target), estimate the range, consult the range plate on their tubes, set the range data, cut the charge on the ammunition and fire. Often a platoon leader or the company commander is there to verify the data and make corrections. Aiming poles are not used and range corrections, particularly in mountainous terrain, are either too timid or too bold. ANA fire direction does not address vertical interval corrections. The simple data plate assumes the target and gun are both at sea level — a difficult assumption to make in Afghanistan.

There are many reasons for the primitive fire direction and gunnery techniques. First of all, many ANA mortar men have not been trained in or do not understand the principles of indirect lay using an aim point (like aiming poles). Further, even fewer of their officers understand these principles. Given the old Soviet model that many of their officers know and practice, even if the mortar team understands and is willing to aim the tube off of aiming stakes, if the officer does not understand the technique, he will not allow the mortar team to do it.

Secondly, many of the ANA mortars have either missing or broken sights. The ANA also has no way to purge its sights (no nitrogen purging kits). Without an operational sight, direct lay on the target is the only technique the ANA mortar team can use. Finally, there is no tabular firing table or firing computers for the ANA to use with their mortars. This lack of tabular firing table or firing computer is the principal reason why the ANA mortar team cannot adjust for vertical interval. Another important side effect of no tabular firing table is the ANA has no way of giving a maximum ordinate of its mortar rounds. Given the high angle nature of mortars, simply assuming that the maximum ordinate is the same as an 81-mm mortar is not a good assumption.

Ammunition. Ammunition generally comes in three types: Russian/Soviet high-explosive, Chinese high-explosive, and U.S. 82-mm illumination. The first two types of ammunition do not have the same ballistic performance. As a general rule, the Chinese manufactured ammunition does not perform as well as the Russian ammunition and can fall short by as much as 50 to 100 meters when fired with the same data as the Russian ammunition. The Chinese ammunition also is more prone to hang fires. However, both rounds share a common, dangerous aspect — neither round has a minimum range “spin safety” (that is, a minimum number of times the round must spin when leaving the tube before the fuse is armed). Once the safety pin is removed from the fused mortar round, the round is armed. Other than that, the rounds are like U.S. ammunition. They may have “donut” or “cheese” charges, and these charges are “cut” just like U.S. mortar ammunition. The U.S. designed illumination does have a minimum range “spin safety” and is much safer to handle.

When working with ANA mortar ammunition, the mortar team must take care with fused rounds. The ANA is generally aware of the dangers associated with their high-explosive rounds and do not pull the safety pin until just before they drop the round in the tube. The mortar teams are quite frugal and save their “cut” charges (U.S. mortar teams do the same). They do this because it is not uncommon for the ANA to use mortar rounds recovered from enemy caches. Often times, the rounds recovered from enemy caches do not have all (or any) of the charges with the round. To fire these rounds, the ANA will use its “saved” charges. Sometimes, these charges have been exposed to the elements or are quite old.

Observed fire. Without tabular firing tables, plotting boards or firing computers, the ANA really does not possess the capability to call for and adjust mortar fire — unless the observer is on the gun target line. Compounding this is a lack of skilled observers within the ANA. While teaching the ANA how to call for and adjust fire was not impossible, it was very difficult. But it can be done, and the fact that the 82-mm mortar is azimuth laid (as opposed to common deflection) actually makes it easier for the ANA to gain this capability. If the observer can give the ANA mortar team a target grid, the ANA can (theoretically) compute the azimuth and the range off of a map and fire on the target. Using the observer to target line factor and the mil range relationship, the guns could adjust (and this is the key reason why it is best if the mortar tubes are laid at zero mils). But the U.S. Soldier must be careful and never forget that the ANA utilizes a 6000 mil compass and gun sight.

Safety considerations. Several significant safety considerations already have been discussed — the lack of a minimum range “spin safety” on the Soviet and Chinese rounds; the fact that Chinese rounds usually fall shorter than the Russian rounds; the ANA propensity to use found or captured cache ammunition; and the lack of good fire direction tabular firing tables or firing computers to compute observer corrections, gun and target altitude data, gun and target vertical interval, or ammunition maximum ordinate. One last significant safety consideration is ANA hang fire/misfire procedures. The high-explosive rounds the ANA uses are often quite old, and the round may not fire. Compounding this issue is the fact the high-explosive rounds are fully armed when dropped in the tube. If the tube must be cleared manually, then it is critically important that it is tipped slowly and gently to allow the round to slide slowly out of the tube. The ANA soldiers I worked with understood this, but it is important the U.S. Soldiers working with the ANA understand this as well.

Challenges. The challenges the ANA mortar teams and their U.S. advisers face are difficult. Some of them can be overcome, and some cannot. The ANA, itself, has to overcome some issues, such as old ammunition, missing or damaged mortar gun sights and the lack of tabular firing tables and firing computers. But, with training, other issues can be addressed. It is possible to teach the ANA how to fire from aiming posts. It also is possible to improve the fire direction center capabilities and teach ANA mortarmen how to adjust for vertical interval errors, create known points and adjust fire for an observer.

I was part of a team of ten U.S. embedded training teams assigned to support the approximately 100 ANA soldiers from 3/1/203rd ANA at Spera Combat Outpost in eastern Afghanistan. What follows are the techniques I used with an ANA company from 3/1/203rd ANA. The ANA company had a good mortar team, but the team was only familiar with direct lay. The ANA company commander knew that I was an artillery officer and gave his consent for me to work with his mortar section. The two ANA 82-mm mortars were the only indirect fire assets on the combat outpost.

The first challenge was convincing the leadership and the mortar team that mortars could be fired accurately using aiming stakes. Because the ANA was assuming the combat outpost from a U.S. unit that had a mortar team equipped with a 60-mm and 81-mm mortar, this task was a little easier than we expected. The U.S. mortar team demonstrated (using its own mortar systems) how the concept of laying the tube worked. It then demonstrated emplacement of aiming stakes. After working through this, the ANA mortar team chief and company commander were allowed to aim and fire the U.S. mortar using U.S. calculated fire direction center data. After the ANA understood the U.S. method, we moved to the ANA mortar and began training the mortar team.

We helped the ANA establish a mortar firing position with Global Positioning System grid coordinates. We then used a declinated M2 compass and determined a zero mil azimuth. After determining this azimuth, the ANA team was trained to emplace the aiming stakes. Over a couple days, we did this several times until the ANA was comfortable with emplacing the aiming stakes on its own.

After teaching the ANA mortar team how to establish position with the Global Positioning System and directional control with a compass, we worked on establishing known points. With our help, the ANA adjusted on known points to the north, south and east of its firing position. The ANA company commander and mortar team chief recorded all of the firing data. The company commander then conducted drills with his mortar team whereby he would call off a specific target and have the team practice using the gun sight and aiming poles for laying the tube. After several of these dry fire drills, he would transition to firing live ammunition on the targets.

Despite the lack of meteorological data (though a U.S. field artillery unit confirmed that the weather remained “generally consistent” during this training) and the age of the ammunition, all of the fires would impact within about 50 meters of the known target grid (as verified with a calibrated set of Viper range finders). This training continued for about four days until the U.S. mortar team departed. After the mortar team left, the ANA became completely responsible for the defense of Spera Combat Outpost. As such, its mortars and the mortar team training took on increased importance.

At this point, it is hard to underestimate the effect of the training with the U.S. mortar team. In the case of this particular ANA mortar team, they had never fired using aiming poles nor had they ever established known points using anything other than direct lay. The U.S. mortar team also treated them as soldiers — a key point to observe when working with the ANA. The ANA respects U.S. Army capabilities and often ANA soldiers will try to emulate U.S. Soldiers. Of equal importance was the leadership of the ANA company commander. The commander was concerned about the training of his mortar team and was willing to get the ammunition necessary for the team training.

After the International Security Assistance Force left Spera Combat Outpost, the ANA commander wanted to adjust illumination on two areas that insurgent forces historically had used to engage soldiers on the Spera Combat Outpost Observation Post as well as a point on a trail they most likely had used to get to the two areas. The issue we had to overcome was there were no skilled observers in the ANA on the observation post. Working with the commander and a map of the area, we began adjusting illumination. Due to the proximity of the international border, we deliberately fired the first round short of the target. The ANA NCO on the observation post then indicated which direction (left, right, closer or further) relative to his position he needed the round to go.

The commander and I worked the corrections (through an interpreter) on the map. As each correction was plotted, we calculated a new azimuth and range. The mortar chief then adjusted his tube to the new data and another adjustment round was fired. Because the ANA has no tabular firing tables, the real problem we had with this method was adjusting the time fuse setting correctly. Because the vertical interval was in excess of 300 meters, we had to slowly adjust “upward” and then “outward” on the gun target line until the illumination was optimal.

After adjusting the illumination, it became apparent we needed a method for calculating corrections due to vertical interval. Realizing the ANA was not trained in ballistics, I tried to resolve the issue and come up with an acceptable approximation. Since mortars are high angle, the last several hundred meters of the descending trajectory can be closely approximated as a straight line. Making this assumption, I then began to analyze the “should hit” and “did hit” range data from the three known high-explosive points. I compared that range data with the Viper measured data and map spotted altitudes.

Because I was assuming the last few hundred meters of descending trajectory was a line, I took data from the north and south known point and used the algebraic equation for a linear slope ($y=mx + b$) to try to compute an approximate vertical interval correction factor — (y is the vertical interval, x is the horizontal interval, m is the slope, and b is the vertical offset). I ended up with a correction factor that was equal to the “did hit” range correction divided by the vertical interval. After computing the correction factor, I took the “should hit” data from the east known point and after multiplying the correction factor (obtained with the north and south target data) by the vertical interval and then adding it to the “should hit” data, I compared the results to the “did hit” range data. In mathematical form, the approximation is expressed as: $(\text{Target Range}) + [(\text{Correction Factor}) \times (\text{Vertical Interval})] = \text{Adjusted Range}$.

The calculated data agreed within 30 meters of the “did hit” data of the east known point despite there being a vertical interval of more than 300 meters and a range of about 2,000 meters. (It also assumes the vertical interval is positive — if the vertical interval is negative, then correction is subtracted.) A point of caution is in order — this correction was calculated for a very specific point in Afghanistan with known firing data and at a gun altitude of more than 7,000 feet. Do not assume all firing data will yield the same results. The linear approximation used is a good one, but only for high angle fire on mortars. It is significantly less accurate for low-angle cannons. This point was made very clearly to the ANA commander. To re-emphasize, this was done in a remote combat outpost under combat conditions and gave the ANA a capability to engage threats with its only indirect fire asset. And it was used only after several verification fire missions demonstrated its validity as an approximation.

After working through this, the ANA commander and the mortar team decided to try to verify my approximation calculations. After firing more than five different targets in different directions with high explosive and two more with illumination, we found the correction factor was always range accurate to within 60 meters (as measured by a Viper). This was a marked contrast to the 200, 300 and 400 meter range corrections we sometimes had to make due to the ruggedness of the terrain and huge differences in vertical interval.

Where it really paid dividends was in illumination missions by quickly giving the ANA an adjusted range for time fuse settings. Having a fairly high degree of confidence in the vertical interval adjustment calculation, the ANA began to apply the correction consistently in their firing during the next two to three weeks. An added benefit to this validation was the ANA mortar

chief began to express a real interest in understanding the concepts of ballistic trajectories. In the process, he began to understand his weapons system's capabilities and limitations.

The final challenge in dealing with ANA mortar teams is not with the team itself, but with observers. The ANA simply does not have many observers with even rudimentary skills. Often, only the commander has any skills in adjusting fire. This is because many ANA soldiers cannot read anything, much less a map. Therefore, target location is sketchy at best and any corrections are "eye-balled" by ANA soldiers. There are some soldiers who can read a map, but often they read using the Russian method, hence the easting and northing are "reversed" from the NATO method. U.S. Soldiers must always verify a target grid given by the ANA if the ANA are calling in targets to any U.S. system.

Due to the operational circumstances at the Spera Combat Outpost, it was not possible to work one-on-one with the ANA observers on the observation post. In addition, the ANA mortar team has to gain the ability to use a mortar plotting board or, at the minimum, the ability to plot corrections on a map to re-compute data due to the new map spot. We did just that at the Spera Combat Outpost. I worked directly with the commander to show him how to take adjustments and re-compute range and azimuths for the mortars based off of corrections, and even though it was a slow process, the commander learned the process and quickly got better at it.

Recommendations. Working with and training the ANA is an important part to the counterinsurgency fight in Afghanistan. The ANA has several capabilities, but also has several limitations. Understanding the limitations and capabilities of company-level mortars is important in any military that uses mortars. As more and more U.S. Soldiers come in contact with the ANA, it is important they become aware of what the ANA can and cannot do. As fire supporters, we must understand ANA infantry mortars just like we understand friendly mortars. I offer several recommendations to personnel who might find themselves working with ANA mortar teams.

Get to know the mortar team members, the condition of their equipment and their company commander. The ANA mortar team is willing to work with U.S. Soldiers, but only if the commander approves.

If possible, try to get a U.S. mortar sergeant to work with the ANA team. The ANA mortar teams that I worked with greatly respected U.S. mortar sergeants. A joint ANA and U.S. mortar live fire with mixed crews can pay huge dividends by motivating the ANA to want to learn more. Make sure that if this is done, the ANA company commander is invited. Earn his respect, and he practically will beg U.S. Soldiers to train his mortar teams.

Understand the ANA mortar team members. Some of them will be very good, and some of them will not understand much of anything. Let them demonstrate their capabilities before you attempt to train with them.

Understand manual fire direction and mortar ballistics. There are no computers or tabular firing tables with the ANA mortar teams (at least I never saw one). Many times, ANA mortars will engage targets they can see or, if they are very good, targets they can compute data from off of a map.

Realize that an 82-mm mortar is not an 81-mm mortar. They may be used in the same type of role, but they are no more similar than an M4 carbine and an AK-74 assault rifle. Both mortars have a tube, a base plate, “legs,” a gun sight and ammunition — and that is about the extent of their similarities.

Finding ANA soldiers who have the capability and willingness to learn how to call for and adjust fire will be extremely difficult. If you do find a willing soldier (or, more likely, officer) who has the capability to learn, then do everything you can to develop that capability.

When training with the ANA mortar teams, always try to use the same interpreter. Gunnery of any kind is full of jargon, and it is critical you ensure your interpreter understands the various gunnery terms like deflection, azimuth and lay before you try to work with the ANA. Your interpreter must understand the gunnery if he is going to interpret for you. Remember, many of these ANA mortar sergeants really do want to understand their weapons system.

Drink tea with the ANA mortar team if they invite you. You will be glad that you did. You will never get to know the ANA mortar teams until you are willing to drink tea with them.

Of course, these are only recommendations based upon my experience as an embedded training team Soldier with the ANA. As many commercials say, your individual experiences may vary, but I will say that some of my best moments in Afghanistan occurred during my work with the ANA mortars at the Spera Combat Outpost. Just like us, nothing gets them more excited than a first round hit — and with assistance, training and understanding, ANA mortar teams can do this more often than they can now.

Conducting Global Container Management Training Online

Thomas Catchings

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Initiatives developed by Major General James L. Hodge while he was the commanding general of the Military Surface Deployment and Distribution Command (SDDC) identified the need to provide deploying Soldiers and units with critical container management training before deployment. SDDC's Global Container Management Division launched a distance learning module in August 2009 to provide "just in time" container management training to deploying units.

The module was built through a collaborative effort among the Army Medical Department Center and School's Production and Development Division Center for Distributed Learning at Fort Sam Houston, Texas; the Army Combined Arms Support Command's Training Support Directorate at Fort Lee, Virginia; and SDDC. It was launched on the Army Transportation Center and School website.

Putting the training on the transportation Center and School website makes it available at all levels across the Army and allows the program to be reached by more Soldiers from a wider variety of military occupational specialties. Web-based training also reduces the need to send out global container management training teams or bring deploying personnel to Fort Eustis, Virginia, to meet deployment training requirements.

Leaders assigned to the U.S. Central Command (CENTCOM) area of responsibility have been using the program as a training tool for Soldiers needing access to the Integrated Booking System-Container Management Module (IBS-CMM). IBS-CMM is a web-based tool designed for easy entry and retrieval of container management information. It is also the program used to provide leaders with visibility of containers in the theater and throughout their life cycle.

"In the field, those who have already conducted the training cite it as a valuable tool in their execution and management of container assets in the theater," said Kenneth Queensberry, a training analyst for the Training Support Directorate. "It will save Soldiers valuable time in preparing for deployment," said Robert Friedman, former supervisor of traffic management for SDDC. "Now units can spend more time with their families before they deploy while still learning the skills necessary to successfully manage their container assets."

A mobility noncommissioned officer-in-charge (NCOIC) took the online global container management course and noted the lack of training that has been given to Soldiers who have deployed to the CENTCOM area of responsibility before this training was available. The NCOIC also commented on the usefulness and Soldier friendliness of the training module.

The Container Management Course, 551_CMC-101N, can be accessed through the Army Transportation Center and School Blackboard website located at <https://trans.ellc.learn.army.mil/webapps/portal/frameset.jsp>. Users must have an AKO/DKO username and password. After logging into the website, click the "Community" tab and then type "Container" into the "Organization Search" box to the left side of the screen to access the training. To enroll, select the "Enroll" button.

CENTER FOR ARMY LESSONS LEARNED

Soldiers who enroll must complete a 40-hour series of modules that culminates with an exam. Further information about the online Container Management Course can be obtained by sending an email to thomas.catchings@us.army.mil.

A 21st Century Campus for Battle Command Training

Institute of Land Warfare Staff

I personally think what will be dramatically new and different about training in 2015 is that we will be able to replicate nearly everything we need to replicate at home station.

— General Martin E. Dempsey, Commanding General
U.S. Army Training and Doctrine Command¹

Introduction

The opening decade of the 21st century indicates that the United States will confront a complex and dynamic security environment in the years ahead. In response, the U.S. Army is transforming to a versatile, adaptable, networked force, trained and ready for full-spectrum operations, operating on a predictable and sustainable rotational cycle. The Army is taking an enterprise approach to building readiness, bringing the many pieces together into a comprehensive, interlocking whole. Training is a vital piece of the readiness cycle, and one in which the Army is moving rapidly to take advantage of the latest research and technology.

In his FY 2010–11 Training and Leader Development Guidance, General George W. Casey, Jr., Chief of Staff, Army (CSA) calls on the Army to “[u]se field time judiciously; use virtual, and constructive, and gaming capabilities wherever possible.” The *2009 Army Posture Statement* lists as a goal: “Develop the tools and technologies that enable more effective and efficient training through live, immersive and adaptable venues that prepare Soldiers and leaders to excel in the complex and challenging operational environment.”²

Nearly every major Army installation has a Battle Command Training Center (BCTC) that provides those tools and technologies, and the venues in which to use them. The BCTC at Fort Lewis, Washington, is an example of the tremendous value a BCTC can contribute to home station training efforts. Its innovative programs are on the leading edge of forward thinking about training and leader development in today’s Army.

Training for Battle Command

The Fort Lewis BCTC is a 21st century campus for training in battle command. Army Field Manual 3-0, *Operations*, defines battle command as “the art and science of understanding, visualizing, describing, directing, leading, and assessing forces to impose the commander’s will on a hostile, thinking, and adaptive enemy.”³ The BCTC teaches and trains the skills necessary for successful battle command and helps to foster the knowledge and attributes needed for effective leadership. It trains individuals, leadership teams, units and staff groups at all levels using live, virtual and constructive environments, as well as the latest in gaming technology.

The Fort Lewis BCTC is government owned but contractor operated. A small group of Army officers, noncommissioned officers (NCOs) and civilians provides oversight, but most of the staff consists of retired military officers and NCOs with extensive leadership experience.

Many have recent combat experience in Iraq and/or Afghanistan; all are dedicated to doing everything they can as trainers and mentors to help prepare Soldiers, leaders and units for upcoming deployments.

The BCTC is a powerful training resource for commanders and NCO leaders, and the value of this capability to the NCO corps at Fort Lewis is difficult to overstate. Approximately 60 percent of training and leader development conducted is focused on NCOs, who are able to conduct a wide variety of training activities with their Soldiers using the BCTC's facilities. Battle Command trainers can realistically simulate battlefield conditions for small unit operations, mounted and dismounted patrols and combat logistics patrols using advanced technologies such as Joint Conflict and Tactical Simulation (JCATS) constructive simulation and Virtual Battlespace 2 (VBS2). Integrating virtual, constructive and gaming technologies with live field training, the Fort Lewis BCTC produces powerful training events, sometimes distributed across hundreds of miles, such as the exercise conducted by the 3d Stryker Brigade Combat Team, 2d Infantry Division.

Training Exercise Arrowhead Shock

Arrowhead Shock was an interstate and inter-service exercise that teamed an Army Stryker Brigade Combat Team (SBCT) and a U.S. Marine Corps task force in locations ranging from Washington State to Southern California. The exercise was planned, coordinated and executed by the commander and staff of 3/2 SBCT and the staff of the Fort Lewis BCTC. The exercise used a universal training scenario developed by the BCTC.

Three of the brigade's battalions conducted live and constructive training at Fort Lewis, while two others trained at the satellite training center near Yakima, Washington, and a sixth trained at three locations in Southern California: Camp Pendleton, Twenty-Nine Palms and Southern California Logistics Airport. All of the training was done simultaneously, with overall command and control exercised by the brigade headquarters at Fort Lewis. In addition to live and constructive training at all locations, VBS2 (a gaming simulation) was employed at Camp Pendleton. Fort Lewis BCTC staff members were present to establish a JCATS constructive environment at Twenty-Nine Palms and the VBS2 gaming instance at Camp Pendleton. Both simulations were networked into the Army Battle Command System architecture and fully integrated into the brigade's overall operating picture.

The Marine Corps task force staff participated in the exercise from Twenty-Nine Palms, while some of its platoons conducted joint live-fires with members of one of the SBCT's infantry battalions. Meanwhile, other platoons from that infantry battalion trained in the Marine Corps' Infantry Immersion Trainer located at Camp Pendleton. **Exercise Arrowhead Shock provided the SBCT experience in command and control of large formations over great distances and in a joint environment.** The brigade commander noted that the training exercise was invaluable in helping the brigade reap the maximum benefit from its subsequent mission rehearsal exercise at the National Training Center at Fort Irwin, California, and contributed directly to making the brigade better prepared for its deployment to combat.

Fostering Leader Development

The Fort Lewis BCTC's staff includes a former brigade commander, ten former battalion or deputy brigade commanders, seven former sergeants major and ten former first sergeants. Thirty-seven of the staffers have recent combat experience from Iraq or Afghanistan, ranging from operations officer for a joint task force, through Stryker brigade command sergeant major, to

company commander. This seasoned staff provides leader mentorship as part of the BCTC's Leader Development Program.

The BCTC assists commanders in training and developing leaders in concert with U.S. Army Training and Doctrine Command's (TRADOC's) leader development imperatives as described in the CSA-approved "Leader Development Strategy for a 21st Century Army." The program employs the full range of live, virtual and constructive training tools available, often using gaming and simulations; most elements of the program are available online via Fort Lewis's BCTCNet.

- **Training modules** provide self-directed internet based leadership instruction for individuals, small groups and leader-teams.
- **Training support packages** offer downloadable instructional materials for use by units conducting leadership classes and leader-team training.
- **Decision-making exercises** present individuals and leader-teams with realistic situations that demand rapid decision-making. They are designed to increase leader experience in combat-relevant situations, improve decision-making competence, give practice in exercising initiative within commander's intent and hone intuitive decision-making abilities. Decision-making exercises normally incorporate a vignette with pauses at critical points for dialog and formulating decisions that can then be discussed and critiqued.
- **S.L.A. Marshall Combat Leader Video Interviews**, in the tradition of Brigadier General S.L.A. Marshall's battlefield interviews, provide candid observations and advice from those who have experienced the rigors of combat and the associated leadership challenges. Viewable online and downloadable, the more than 1,100 videos include insights from returning Fort Lewis units and SBCTs across the Army.
- **The Post-Rotation Interviews and Data Capture Events (PRIDE) program**, growing out of the S.L.A. Marshall interview project, captures observations, insights and lessons learned from a representative sample of unit leadership upon their return from combat deployments. In addition to the taped individual interviews, PRIDE includes peer group interviews, computer-based data capture, focused process group interviews and documentary accounts of key engagements during the deployment. The results assist commanders in reviewing, assessing and validating their units' pre-deployment training; and they serve as a tool for planning collective training during the unit's time in the Army Force Generation (ARFORGEN) Train-Ready Pool.⁴ PRIDE has become a valued resource for a variety of training and leader development activities and products, as well as an effective way to share knowledge and experience across formations.
- **Leader-team battle exercises** allow commanders to fight a virtual battle and exercise mission command using computer simulation and gaming technology such as JCATS and VBS2.
- **Leader professional development events** provide a variety of activities such as facilitated seminar discussions, staff-led simulations and other events tailored to a commander's needs.

- **The BCTC’s Jacobsen Mission Support Operations Center’s Area of Operation Immersion Program (AOIP)**, including Virtual Right Seat Ride (vRSR), puts Fort Lewis Soldiers in close, ongoing contact with counterparts in the area to which they are to be deployed. This allows units to “hit the ground running” when they deploy and also helps the BCTC to continuously refresh training activities with the latest information and experience from ongoing operations.
- **Virtual Staff Ride** offers all the elements of a standard Army staff ride in a virtual format for select battlefields of Operation Iraqi Freedom, available online through BCTCNet.
- **Individual digital systems training** provides leader-oriented training courses on the Army Battle Command System and Digital Training Management System.
- **Leadership mentoring** provided by the Fort Lewis BCTC supplements the counseling, coaching and mentoring capabilities that reside in unit chains of command. BCTC mentors are available to present officer and NCO professional development activities, work with leader-teams and consult with individual commanders and other leaders regarding leader development.

Students at Fort Lewis’s Henry H. Lind Noncommissioned Officer Academy have benefited from the support of the BCTC and its leader development capabilities. Simulation activities have been integrated into leadership training events, and the S.L.A. Marshall Combat Leader Video Interviews have exposed young NCOs to the experience and knowledge of seasoned veterans.

The Power of Synergy

The Fort Lewis BCTC shares its campus with three other organizations: the Army Center for Enhanced Performance, the Stryker Brigade Combat Team Warfighters’ Forum and the Asymmetric Warfare/Counter-Improvised Explosive Device (AW/C-IED) Team. Together, the four organizations provide complementary and interlocking capabilities that combine to further enhance home station training and leader development.

The Army Center for Enhanced Performance (ACEP) was pioneered at the U.S. Military Academy at West Point and has since expanded to nine other sites, including Fort Bragg, North Carolina, and Fort Hood, Texas, as well as Fort Lewis. The ACEP offers training, derived from performance and sports psychology, that focuses on developing mental and emotional skills to help the trainees improve overall performance and “be their best when it matters most.” The staff uses techniques such as goal setting, stress and energy management, biofeedback and neuro-feedback training, visualization and imagery, positive-effective thinking and attention control to encourage mastery of peak performance.

The Stryker Brigade Combat Team Warfighters’ Forum (SWfF) was the first of several small organizations established by the Army to foster a more networked and collaborative environment within the “communities of purpose” they serve. Each Warfighters’ Forum seeks to promote the sharing of knowledge and experience, and to solve common problems affecting its type of formation. It leverages network technologies such as online portals, discussion forums, web conferencing and secure video teleconferencing, and it integrates subject matter expertise from throughout its community. The SWfF serves the Army’s seven Stryker Brigade Combat Teams and the organizations that support them, connecting the institutional Army and Combat

Training Centers with operational units across the Army. It collects and shares observations, insights, lessons and innovations from SBCTs that are conducting operations, training and exercises. It works in concert with the TRADOC Capabilities Manager for SBCTs, serving as a problem-solving catalyst, disseminating SBCT experience and expediting the production and incorporation of new knowledge. The SWfF enhances the Army's ability to "get it right quickly" by focusing a wide range of expertise within the Stryker community of purpose.⁵

Finally, the AW/C-IED Team provides Fort Lewis units with a first-class training resource for AW/C-IED information, resources and capabilities. The team facilitates the training of collective counter-IED capabilities incorporating the latest technologies, helps to integrate live IED-defeat training into the virtual, constructive and gaming capabilities of the Fort Lewis BCTC, and develops and manages the Fort Lewis and Yakima Training Center counter-IED training infrastructure. The AW/C-IED Team helps to integrate "attack the network" training into universal home-station training scenarios and conducts individual and collective training to "defeat the device." It trains and certifies a core group of master trainers from Fort Lewis brigades and other major subordinate commands. These subject matter experts assist unit commanders in the conduct of AW/C-IED training and provide other mission area expertise. The team also works with other external courses and programs, such as the mobile training teams dispatched to Fort Lewis by the DoD-wide Joint IED Defeat Organization (JIEDDO).

The Way Ahead

This quartet—the BCTC, the ACEP, the SWfF and AW/C-IED—is unique to Fort Lewis and gives NCOs and other leaders access to an extraordinary set of training tools. These organizations operate at the cutting edge of new, ground-breaking technologies and methodologies across the range of live, virtual, constructive and gaming environments. The innovative capabilities they offer, and the synergy they produce, offer powerful training enablers, applicable to operations all along the spectrum of conflict.

This installation serves as an example of how to enhance home station unit training and leader development. It shows how to empower the noncommissioned officer corps and other leaders with an integrated kitbag of available, proven and effective tools—tools that are continually updated with system improvements and new insights from the field. The Fort Lewis model offers a way ahead for the future of training in the Army.

Endnotes

1. From remarks to the 2009 Armor Warfighting Conference, Fort Knox, Kentucky, 13 May 2009, <http://www.tradoc.army.mil/pao/Speeches/Gen%20Dempsey%202008-09/ArmorConferenceSpeech051309.html>.
2. See http://www.army.mil/aps/09/2009_army_posture_statement_web.pdf, p. 8.
3. FM 3-0, *Operations*, Headquarters, Department of the Army, February 2008, p. 5-2, para. 5-8, <http://www.army.mil/fm3-0/fm3-0.pdf>.
4. ARFORGEN is the Army's force generation model used to progressively ready forces for employment by Combatant Commanders. After returning from a deployment, a unit is "reset" with personnel and equipment (Reset Pool), then enters the Train-Ready Pool and begins collective training for a future mission.
5. For a fuller discussion of the SWfF, see AUSA's Torchbearer Issue Paper "Stryker Brigade Combat Team (SBCT) Warfighters' Forum: A New Army Paradigm for Home Station Unit Training," October 2007, http://www.ausa.org/programs/torchbearer/issuепapers/Issue%20Papers/TBIP_101907SBCT.pdf.

The SCoE Simulation Center Supports Training for a New Deployment Mission

MAJ Jeffrey L. Schultz and MAJ Ralph L. Poole

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In October 2009, the 240th Quartermaster Battalion at Fort Lee, Virginia, was notified that it would deploy in support of Operation Iraqi Freedom in early 2010 as a combat sustainment support battalion (CSSB). This announcement presented the unit's relatively inexperienced staff with the dilemma of planning, training, deploying, and executing an entirely new mission in a short timeframe.

The training required coordination with many external organizations. Exercise planners within the Sustainment Center of Excellence (SCoE) and the Logistics Exercise and Simulation Directorate (LESD) took advantage of the opportunity to support the unit in its training while also assessing the capabilities of the newly established SCoE Simulation Training Center (STC).

The 240th Quartermaster Battalion is one of two Active Army pipeline and terminal operating battalions. It commands and controls six active-duty companies: a headquarters company, two petroleum pipeline and terminal operating companies, one mortuary affairs company, and two petroleum supply companies. The battalion's new role as a CSSB requires it to perform a multifunctional mission with a mix of Active and Reserve component subordinate sustainment companies from other installations.

Lieutenant Colonel Skip Adams, the battalion commander, considered the challenges faced by the 240th and asked training activities located at Fort Lee for assistance. Colonel Sharon L. Leary, director of LESD, a tenant activity at Fort Lee and a directorate of the National Simulation Center (at Fort Leavenworth, Kansas), agreed to support the unit in this effort, which fell under the LESD's primary mission — to properly train sustainment staffs to perform battle command missions. The intent was to support the planning and execution of a simulation training exercise tailored to meet the unit's specific training objectives.

The exercise took place during the first week of December 2009 and consisted of a series of master training events supported by the Joint Deployment Logistics Model (JDLM). JDLM is the primary training simulation for logistics and is used to simulate the Army's Battle Command Sustainment Support System.

The 240th Quartermaster Battalion, using JDLM, was able to replicate reporting procedures from subordinate units and create logistics status reports to transmit to higher headquarters. The unit was also able to simulate various transportation, maintenance, and personnel issues that it might experience during its deployment to Iraq.

The officers and civilians of the STC provided guidance and direction on training plans and events while learning new techniques and procedures for conducting an exercise at the battalion level. Assisting a battalion with building an exercise was new ground for STC simulation trainers as well as for the members of the 240th. The two groups worked together closely to create and execute a battalion-level command post training exercise that met the commander's expectations and provided the battalion staff with greater confidence in assuming its new mission.

The 240th Quartermaster Battalion, assisted by members of the STC, successfully executed the exercise and met its short-term training objectives. The achievement was considered a success not only for the 240th but also for the STC. Members of the SCoE and LESD were able to exercise the original STC concept and are now developing a pilot training program designed to support future units with similar training requirements. Continued improvements to this new capability will complement the Army's Battle Command Training Strategy by incorporating training support from the Army's newly established centers of excellence.

Aviation Brothers in Arms: One MAG's Experiences With an Attached Army Helicopter Task Force

Maj. Anthony Krockel

Reprinted with permission from the July 2010 issue of the *Marine Corps Gazette*.

Given that the Department of Defense is increasingly spread thin across a number of operational areas, the likelihood of operating in a joint environment is ever increasing. While this concept is not new, the fact that it is being executed by rotary-wing aviation is. Aviation integration, however, presents its own distinct challenges. MAG-26 and the 1st Aviation Combat Brigades Task Force 227 (TF-227) experienced a number of these challenges, including command and support relationship friction, as well as a lack of understanding mission types, aircrew procedures, and mission approval processes. More integration training should be conducted in a training environment so that we can “train like we fight.”

On 15 December 2009, Multinational Force-West (MNF-W) was given operational control (OpCon) by Multinational Corps-Iraq (MNC-I) of an Army rotary-wing TF (TF-227), consisting of eight AH-64D Apaches and six UH-60L Blackhawks, marking the first time in recent history that Army Apaches were placed under the command of a Marine unit. OpCon was then further delegated to MAG26 (Reinforced) (MAG-26 (Rein)). As a relatively unique relationship, there were multiple integration challenges to capture for similar situations in the future.

Prior to the integration of TF-227, two Army aviation units were attached to the MAG as the aviation combat element (ACE) for MNF-W- B Company, 1-214, a CH-47 Chinook company, and C Company, 5/1 58th, a UH-60A medevac company. The CH-47s were provided to the MAG to fill the gap left by the redeployment of MV-22B Ospreys. CH-47s came to MAG-26 (Rein) for a 9-month deployment and seamlessly integrated into the ACE. They were a flexible Army National Guard unit with a similar mission to Marine assault support platforms. Army UH-60s had filled the medevac role for MNF-W since 2003 and were very familiar with Marine processes and procedures. These earlier experiences provided a false reference of the potential complexities surrounding the integration of TF-227 with the MAG.

Marine Light Attack Helicopter Squadron 269 (HMLA-269) redeployed to the United States on 15 December 2009, and B Company 1-214 redeployed on 1 December 2009. Prior to these departures, MNF-W petitioned MNC-I for an aviation assault support and attack capability to remain until the end of mission scheduled for no later than 1 March 2010. Upon assumption of OpCon by MNF-W and MAG-26, it became immediately apparent that the chosen command relationship and support relationship for the TF were inadequate and poorly defined, resulting in friction for the TF-227 detachment officer in charge (OIC).

Command Relationship vs. Support Relationships

In deciding the desired command relationship, MNC-I considered the anticipated division-level requirements - reconnaissance in support of the commercial air security program (CASP), a helicopter quick reaction force, 24-hour troops in contact (TIC) response, and medevac chase. Marine arguments against a direct support relationship to the 1/82 Advise and Assist Brigade (AAB) were based on concerns that 1/82 priorities might supersede MNF-W priorities, and MNFW would not receive adequate support if OpCon were maintained by the TF's parent unit, 1st Air Cavalry Brigade. As no support relationship was mentioned when placing the TF under

the MAG, the MAG planned to employ TF-227 in general support of the MAGTF with priority of effort to 1/82 (AAB). A later fragmentary order (FragO) was published changing ownership of the CASP from MNF-W to the 1/82. During staffing of that FragO, the ACE reinforced the notion of “dedicated” versus direct support. Dedicated support provided MNF-W the right of first refusal for all missions with the excess allotted to 1/82 for direct support. Because dedicated support is not a doctrinal support relationship, the term was not used in the FragO. Instead, the FragO was published, establishing a direct support relationship between TF-227 and 1/82 beginning 15 January 2010.

Days after the change to the direct support relationship of Army helicopter assets, an Apache attack weapons team (AWT) launched in support of a 1/82 “immediate” joint tactical air request (JTAR) for a reconnaissance mission. Neither the Marine agency responsible for procedural control of the airspace, the direct air support center (DASC), nor the MAG’s tactical air command center (TACC) was informed of this mission as the TF considered it in direct support of 1/82. The TF, thinking that an immediate JTAR from its supported unit did not require approval from MNF-W, launched in accordance with Army doctrine. After examining the issue, the ACE proposed to the MEF that approval for all immediate JTAR “missions” would reside with 1/82; however, due to the OpCon relationship and the responsibility of command, “launch” approval would reside with the TACC. This compromise provided one less level of bureaucracy for the Army and maintained the Marines desired command and control (C2).

A separate issue was the continued influence of the TF’s parent command, 4-227 Attack Reconnaissance Battalion. Located in Taji, 4-227 declined to grant complete command responsibilities to the TF OIC. Many local command decisions required input from the parent command. This contrasted with the relationship the MAG enjoyed with the Chinook and medevac units, which may have been a function of the similarities between assault support units and a better understanding of roles and C2 processes. Another potential exacerbating circumstance was that all parties knew that the OpCon relationship would only last 6 weeks due to the redeployment of Marine Forces from Al Anbar Province. The OIC held the unenviable position of serving two masters - one who wrote his fitness report and the other who commanded his unit - each with often doctrinally polar ideas of attack helicopter employment.

Upon receipt of OpCon of the Apaches, it became apparent that the allotted eight airframes included two permanently stationed in Taji, collocated with their higher headquarters and more robust maintenance capability (eight to make six). The requirement for administrative flights to and from Taji was not initially briefed and assumed tacit MAG approval. Because Taji is located in a higher threat area, Marine aircraft avoided that area during daylight hours; however, Army helicopter battalions routinely flew there during the day. The TF-227 OIC was again placed in the difficult position of serving two masters, each with different ideas of threat mitigation. In hindsight, Marines should not have pressed for OpCon of the TF given that it would be for such a short period of time. Instead MNF-W should have petitioned for OpCon to be retained by the TF’s parent unit with a direct support relationship being tasked by MNC-I to MNF-W.

Mission Types and Aircraft/Aircrew Capabilities

The missions assumed by the Apaches mirrored the HMLA missions, to include medevac chase, CASP, and 24-hour JTAR/TIC support. Significant support limitations that remained unresolved during integration planning meetings resurfaced after mission assumption. The Apaches do not fly as single aircraft in escort for medevac aircraft. Unlike Marine Cobras, they do not train for this scenario and are not familiar with the dissimilar tactics and flight profiles of medevac UH-

60s. They will only fly as a section in a detached escort profile. The Apache aircrews were also reluctant to fly medevac chase based on the amount of time required to start an Apache and the difference in cruise speed between the UH-60s and the AH-64s. During the summer months in Iraq it may take as long as 30 minutes to allow the necessary mission computers to cool down prior to take off. This was less of a factor during their December to January tour at Al Asad. The typical cruise speed for the UH-60s was in the 120 to 135 knots true air speed (KTAS) range, compared to the AH-64's 110 KTAS. This disparity allowed the UH-60 to outrun the Apaches, an important factor in time-critical medevac missions.

When prompted by the MAG to fly as a mixed section in order to conserve assets, TF-227 preferred to assign an entire AWT in support of medevac chase. The MAG's assumption that a single Apache would escort a medevac helo in emergency situations was misguided. When a situation requiring the potential use of a mixed medevac and chase aircraft section arose, the DASC directed an AWT section to separate in order to escort two different UH-60s to two different combat support hospitals in "red zones" during the day. Marine Cobras are readily able to execute this mission based on immediate tasking from the DASC and the authority delegated to the section leader. The Apaches, however, require permission from their tactical operations center (TOC) via blue force tracker message because it is not a prebriefed mission.

In another circumstance, when instrument meteorological condition weather was reported during a local reconnaissance mission, the TACC suggested launching an Apache in the local pattern for a weather pilot report. The TF refused due to the limited instrument flight capability for the Apache aircraft and aircrews. There are no valid approaches for the Apaches at Al Asad. Army pilots require an official weather brief (DD 1 1-175-1) for every flight. This is a significant difference between Army pilots and Marine pilots as Marine pilots can launch simply based on the latest reported weather conditions as long as they comply with visual flight rules. The unfamiliarity of the Apache's aircraft and capabilities created unrealistic expectations between the units.

Mission Approval Process

Among the many operational differences the MAG realized was the mechanism by which the Army plans and approves missions. In this distinctly different process, the first step is to obtain initial mission approval as per Army Regulation 95-1 (AR 95-1), Flight Regulations. This step is accomplished through the normal flight schedule approval process. It is not a detailed hazard and risk analysis for specific flight operations but rather an assessment of the unit's capability to accomplish the mission.

The second step is mission planning and briefing, which involves detailed planning, risk assessment, and risk mitigation by the aircrew. A briefing officer, who is typically a more senior pilot and is current in the mission profile, reviews this process. This briefing officer discusses the following key areas with the aircrew:

- The crew understands the mission and possesses situational awareness of all tactical, technical, and administrative mission details.
- Assigned flight crews have been allocated adequate premission planning time, and the mission is adequately planned to include performance planning, notices to airmen, and coordination with supported units.

- Assigned flight crews are qualified and current for the mission.
- Forecast weather conditions for the mission.
- Flight crews meet unit crew endurance requirements.
- Procedures in the commanders risk management program are completed and mitigated to the lowest level possible.
- Required special mission equipment is operational.

The mission briefing officer briefs more indepth than the Marine operations duty officer (ODO) and provides a level of oversight and supervision that the Marine ODO does not. Marine ODO briefs consist of weather, friendly situation update, aircraft assignment, and any recent mission updates. The ODO is tasked primarily with administrative support of operations and, with regard to operational risk management (ORM), is responsible to ensure that flight leaders at all levels conduct the necessary ORM.

The third step is final mission approval based on the resulting mitigated risk. It is approved by the final approval authority that reviews the mission validity, planning, and risk mitigation and authorizes the flight in accordance with the commander's policy. If a crewmember or a mission parameter changes and increases the resultant risk, the mission pilot in command or air mission commander must be rebriefed and acquire reapproval. This point is noteworthy because when a Marine squadron commanding officer launches an aircraft, control is passed to the DASC as an extension of the TACC. Marine helicopters can be dynamically retasked for any number of missions by the DASC. If the crew is current and proficient for the new mission, they can immediately brief the new mission parameters in the cockpit. Conversely, Army helicopters maintain a direct chain of command to their TOC. Any changes to mission profiles need to be rebriefed to the final mission approval authority. The Army's AR 95-1 specifically states that "self-briefing is not authorized unless approved by the first officer in the grade of Lieutenant Colonel or above in the chain of command." Of note is the emphasis on chain of command. Even an air mission commander who is in control of the flight is not within the formal chain of command and cannot approve self-briefing.

Another example of employment differences between the Services is the AWTs autonomy with regard to tasking. Available AWTs will seek out tasking during an entire on station time, checking in with local brigade combat teams as they move across the area of operations. Marine helicopters inquire for additional tasking from DASC as the agency in contact with local assault support liaison teams or air liaison elements.

The unifying point regarding the differences in standing operating procedures (SOPs) and regulations is that many of these were not adequately resolved during the planning phase. Future coordination between Army and Marine helicopter units may be hampered by unknown SOP restrictions, which might preclude mission accomplishment. Based on the lack of preparatory training and integration with the Army, Marine planners must emphasize patience and flexibility during coordinated missions when time does not allow a derailed understanding of Army regulations and SOPs.

Recommendations

Despite time restrictions, there is much to gain by conducting predeployment familiarization and training between Army and Marine helicopter units. The use of a building block approach coupled with brief exchanges between 82d Combat Aviation Brigade at Fort Bragg, NC, and the squadrons at Marine Corps Air Stations New River and Cherry Point can be a mechanism for professional discussions, capabilities briefs, and tactical decision exercises. The Marine Corps has done little to encourage joint force aviation training for rotary-wing aircraft. United States Air Force and Department of the Navy fixed-wing tactical aircraft assets have productive integration opportunities with exercises like RED FLAG and common systems used by the combined forces air component commander. At an exercise like RED FLAG, a Marine F/A-18 squadron could receive minimal information through a road to war brief, a communications card, and the rules of engagement and integrate seamlessly with the Air Force. Could a detachment of Cobras do the same if attached to a brigade combat team? Would the converse be true for Army helicopter pilots in understanding the role of the Navy's TACC or the Marine Corps' DASC?

Once initial relationships have been established, cross-training could be implemented by exchanging divisions of assault support and attack aircraft for local training. Beyond this foundation, larger scale integration exercises could be conducted at Twentynine Palms and Fort Irwin, CA. Perhaps concurrently, the Services could work together to develop broad joint techniques, tactics, and procedures for employment of rotary-wing aircraft to complement Joint Publication 3-04, *Joint Shipboard Helicopter Operations*.

Despite the integration challenges faced by the soldiers and Marines of the MAG, the mission was accomplished safely and without any significant degradation of support. Both TF-227 and the MAG learned a great deal about working within the constructs of our distinct processes and procedures. I look forward to another opportunity to work and learn alongside our aviation brothers in arms.

Keeping it Real: Don't Let Joint Fires Observer Skills Deteriorate

MSG Timothy Ryan

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Congratulations, you have completed the Joint Fires Observer course at Fort Sill, Okla. Now what? I think the trend is to get back into the day-to-day grind of garrison operations with all the tasks that must be accomplished on a daily basis, but JFO skills may atrophy.

So, after three or four months back at garrison, are you ready to go to war as a JFO? If you are truly honest you might answer 'no' to the question. Because daily skills as a JFO might not be exercised, 'just-in-time' training might be needed to get back up to speed. This is the wrong approach and a better course of action is needed. A thorough continuation training program can help to ensure the maneuver commander is getting a valuable warrior.

The joint and combined integration directorate states in the article "Air, Land, and Sea Applications Bulletin," that ongoing training and qualification of JFOs are key factors in combat success. Luckily, the resources needed to build and sustain a robust JFO continuation training program exist at your garrison.

Continuous training. The integration of close air support into the ground scheme of maneuver is a perishable skill set that requires continuous training. Motivated leadership can build a comprehensive JFO program that can be tailored to any situation. Because of the joint nature of combat these days, it is imperative the services are able to work together in order to meet the supported commanders' intent. According to the JFO memorandum of agreement, the joint Fires observer training program relies on joint collaboration. As resources allow, Joint Terminal Attack Controllers and JFOs need to train together. A good way to accomplish this is to visit the local tactical air control party personnel.

Only a select few wear the Black Beret that symbolizes the TACP. These Air Force specialists are assigned to Army combat maneuver units around the world. On a battlefield, they form a tactical air control party team that plans, requests and directs air strikes against enemy targets in close proximity to friendly forces. A TACP is generally a two-airman team, working in an Army ground unit and directing close air support firepower toward enemy targets on the ground.

Although the initial training begins at the JFO school house, JFO skills need to be honed at the home station. A great deal of training should be accomplished at the home station, and is the correct place for refresher and spin-up training. Maneuver training centers are vital to exercising all the pieces making up the joint fires team. However, they are not the venue for refresher or just-in-time training. Graduate level tasks should culminate at events such as National Training Center, Fort Irwin, Calif., and the Joint Readiness Training Center, Fort Polk, La. These training centers should be utilized for full-spectrum operations that provide JFO top-off training.

There are three parts to building a comprehensive continuation training program. The first part is gaining knowledge. Just because information was retained long enough to take a test at the JFO school house does not mean it will be remembered for the long haul. Along with academic learning comes the need to review new technologies that continue to change at an alarming rate. The second part of the equation is gaining practical skills that get the procedural requirements of close air support down to a second nature, and finally, putting it all together culminating exercise with the joint terminal attack controller/joint fire observer team and live-flying aircraft.

Academic training. The joint mission task list, as identified in the JFO MOA, outlines three mission areas a JFO should be able to conduct. Duty Area 3, in particular, addresses the air to ground aspect of joint Fires. As a JTAC, I am most concerned with this duty area. To accomplish Duty Area 3, the JFO needs a solid background in the academics of the close air support mission set. Though this information is taught at JFO school, continual refreshing of this information is needed. From my point of view there are three ways this can be accomplished. This includes taking online courses, reading and digging into applicable publications, and being familiar with the latest tactics, techniques, and procedures that go with the JFO skill set.

Many important references for JFOs are online or available through online courses. Distance learning is an easy way to gain knowledge while saving training costs. Online learning makes it possible to attend a course and never leave garrison. A good resource for distance learning is the Doctrine Networked Education and Training website located at www.dtic.mil/doctrine/docnet/.

DOCNET's mission is to promote understanding, training, and education in joint doctrine of the U.S. armed forces. This website also provides online access to many joint publications, like JP 3-09.3 *Joint Tactics Techniques and Procedures for Close Air Support*, and also allows users to take online exams. As an added benefit, the American Military University grants one college credit hour for successful completion of each DOCNET course. This isn't the only web source for information, The Joint and Combined Fires University located behind the AKO firewall on the Fires Knowledge Network also has a variety of courses that allows the user to delve into a variety of topics.

Additional training. JFOs should also study and review joint, U.S. Army, and U.S. Air Force publications which will help build a body of knowledge that is needed to be a thorough warrior. Besides the JTTP for close air support, JFOs will benefit from reading joint publications for joint fire support and joint airspace control in the combat zone. These particular publications cover topics such as the joint targeting cycle, airspace control and how to integrate unmanned aerial platforms in the operational environment. Also, a JFO should have a good understanding of the most recent Army publications that put "steel on target."

The Joint Electronic Library, located on the web at www.dtic.mil/doctrine/, provides access to several applicable publications, as well as the Curtis E. LeMay Center for Doctrine Development and Education, located at www.cadre.au.af.mil/main.htm. This site offers an Air and Space Power Course which provides a broad understanding of airpower. Also by logging onto FKO, which can only be accessed with a CAC card, a user can click onto a link to Joint Knowledge Online. JKO is an online repository for training and informational material that impacts and improves the knowledge, skills and abilities of the joint warfighter.

Emerging doctrine. A final area to keep familiar with is emerging doctrine and the most current tactics, techniques and procedures. The 561st Joint Tactics Squadron, located at Nellis Air Force Base, Nev., both publishes and keeps track of emerging tactics. Though their files are U.S. Air Force centric, many of the procedures discussed will help with Duty Area 3 of the JFO MOA. These publications are comprised of the most effective methods identified for operations in support of Operation Iraqi Freedom and Operation Enduring Freedom. The squadron's focus is to ensure that the deploying warrior is current, relevant and extremely well prepared for combat, day one in theater. Though not available from the public domain, their website is accessible from a .mil domain located at <http://www.nellis.af.smil.mil/units/561jts/>.

Practical training. The practical skills of the CAS mission set are retained, refined and enhanced over time with practice. Every time there's participation in CAS training, personal skills sets will be enhanced and more confidence will be gained when the time comes to assist in the application of airpower. The following three training activities, tactical discussions, radio rehearsals and simulator controls, can provide the polish for necessary skills.

It's important to note, that some of the best tactical discussions I have taken part in have taken place after work. In my opinion, low key environments that minimize rank create the best atmosphere for the free exchange of ideas. In these discussions there are no bad ideas – just better ideas. These tactical discussions should be viewed as a “hot wash” or informal after action review. The difference is discussing what will happen as opposed to what did happen. Discussions should focus on devising new techniques to test the next time there is participation in a CAS training event. The best environment to test and refine new TTPs is during local training. Then validate this training at the Joint Readiness Training Center or the National Training Center with major exercises in preparation for deployment.

Rehearsals are key. The radio rehearsal is a valuable tool. In the case of rehearsals for CAS, radio messages will focus on the procedural aspects of CAS control. Voice procedures are important during an attack brief to a pilot, so it is imperative to practice the proper calls. The flow of communication during a CAS mission is fast paced and follows a pattern built around information exchanges. Practice the information flow until it becomes ingrained.

Another useful technique is to pull out a map and practice a target ‘talk-on’ with someone with the same map in another room. What might be thought of as perfect ‘talk-on,’ may not be understood by another person listening in, so it's important to practice with a team member. After the radio calls come smoothly, it is time to take the training to a simulator.

Simulators are a great tool to re-enforce CAS procedures. A variety of missions can be built using a simulator and is the perfect place to try new techniques. Another nice thing about simulators is that the systems provide instant visual and auditory feedback to see if desired results were achieved. Also, if the simulation was tanked – just reset and do it again. There are a variety of simulators available in most Army garrisons, or work with the local Air Force tactical air control party to join in their training.

Live-fly training. I remember the first time I talked to an actual aircraft I got tongue tied. Looking at a piece of ground and telling the aviator to hit a particular target is not a simple task. It is important for a Fires observer to train with actual aircraft as much as possible to work through this issue. Extensively utilize live-fly training at local ranges. Local ranges are inexpensive to utilize and easily scheduled. However, do not disregard unfamiliar ranges that provide new targets and challenges. Traveling to off-station range is highly encouraged if funding can be secured to make it happen.

Whatever range the training takes place on, it is important to watch a target explode because it provides instant feedback. This is one of the reasons the JFO should accompany JTACs when they conduct CAS training. Local ranges present a good balance for the JFO. The local impact range has familiarity and is the range that JFOs routinely perform calls for fire missions on. However, conducting a CAS mission is a different mission set for most fire support professionals. Initial JFO training on a local range may allow JFOs to focus specifically on JFO

skill-set building and minimize friction caused by range unfamiliarity. Though home-station training can be effective, it's important to remember to mix it up if possible. A local impact range will eventually cease to provide a challenging training environment. Before long, the joint terminal attack controller and joint fires observer can engage targets on the range from memory.

Case in point, I can control a mission on Redleg Range on Fort Polk, La. to this day – seven years later. If funds are available, a change in training locations can provide challenges with new conditions and target arrays.

More bang for the buck. It's important to note, the Joint Forces Command has put aside money to help defray training costs. The Joint Terminal Attack Controller -Joint Fire Observer Continuation Training Program aligns disparate JTAC/JFO units with CAS aircraft and provides temporary duty funding, otherwise not available, to enable live training to enhance JTAC proficiency and maintain currency. In order to apply for funding, the training event must involve two branches of the military. Military lodging can be provided. Also, the event must be scheduled during periods of historical favorable weather. The last step is to provide an after action review of the training event. The link to request funds can be found on Air Force Knowledge Now. Users, via a CAC card, must create an online account to access the AFKN system.

Stay in the game. A warrior should be ready to perform with little to no warning. This ability does not happen by itself. Stay ahead of the game by not allowing JFO skills to be dulled by the daily grind. The warrior reaches a high level of performance with continuous training. Growing JFO skills takes time and effort, but the end result is a capable combat asset for any commander. Get in the books and utilize all training venues and material that are readily available. A thorough training program that builds upon the knowledge, skills and abilities acquired at Fort Sill cannot be understated. Quality training at home station allows concentration on fine-tuning techniques at NTC or JRTC. The formal JFO course held at Fort Sill is just the beginning of a JFO's journey.

“Danger Close”

Jennifer McFadden

Reprinted with permission from the September–October 2010 issue of *FIRES*.

Imagine you are a new lieutenant assigned to a battery. You want to make a good first impression but are not sure where and what are you are supposed to be doing. To whom do you turn? Now imagine you are a seasoned staff sergeant or sergeant first class, doing the job of the platoon sergeant and the platoon leader when you get a fresh 1st lieutenant who has a little or no operational experience. How do you interact? How do you, as a platoon sergeant or platoon leader find your place and your role in your unit without over stepping or disrespecting your counterparts or the chain of command?

There are many challenges that come from developing a noncommissioned officer-officer relationship making getting off to good start imperative. Finding a balance between teaching and respect is a challenge many leaders face. Showing strength, knowledge and unity can be difficult but is necessary to create a functioning, precise, and cohesive unit and developing a good officer/NCO command team.

Often tough leadership lessons are taught in the school of life and sometimes the outcomes are good but detrimental. This is where a new virtual experience immersive learning simulation program called “Danger Close,” can give NCOs and officers an opportunity to practice reacting to real-world challenges, from garrison to combat missions, in a mock reality before they happen in real life. In this new gaming application leaders can make mistakes and learn in a safe environment without risking lives, a mission outcome or breaking down the chain of command. Reminiscent of old chapter books where you choose your path for the story, this program allows the user to see the outcome of their choices and decisions. The game, however, when choices end up having detrimental consequences will allow the user to go back and review the scenario again and choose a better answer.

Contrary to prior learning tools of the Army this is no ordinary point-and-click program. “Danger Close” has graphics and a realism that rivals civilian games such as “Soldier of Fortune” or “Halo.” It has also won the 2010 Software and Information Industry Association CODiE award for best workforce training application.

There were many man hours involved in the making of “Danger Close” to make it a reality. With the help of the entire Fort Sill community and the support of the Training and Doctrine Command, “Danger Close” has become a template for other virtual training programs. Filming for it only took three weeks but it took months of team effort from Fort Sill and the Lawton community to pull it all together. Organizations such as the Fort Sill Morale, Welfare, and Recreation Program, the Fires Center of Excellence NCO Academy and the Department of Public Works were instrumental in making it happen.

“We were so lucky. The crew filmed at the NCO academy, the Impact Zone and out in the (Lawton) community,” said CSM Dean J. Keveles, commandant of the FCoE NCO Academy. “We even had one of the community hospitals shut down for us to create a more realistic scenario.”

NCO/Officer relationship challenges are a fact in the Army. That is why the Fort Sill Directorate of Training and Doctrine and the FCoE NCO Academy came together to create this new and state-of-the-art training tool for use by troops here at Fort Sill.

“This program is cutting edge,” said Sandra Velasquez Pokorny, branch chief of design and evaluation at DoTD. “We have worked to make every detail as realistic as possible.”

Pokorny also spearheaded the campaign for a better training tool along with a W. Joe Kirby, chief of the Enlisted Development Branch, DoTD. Former commanding general of the FCoE and Fort Sill, MG Peter M. Vangjel, and now with the support of MG David D. Halverson, the current commanding general of the FCoE and Fort Sill and BG Martin Dempsey, the commander of U.S. Army TRADOC, “Danger Close” is now being used as a part of the curriculum taught at the FCoE NCO Academy.

It has become a valuable training tool for both NCOs of the Field Artillery and Air Defense Artillery branches, as well as for all officers.

“The program is not one sided,” said Keveles. “You can play the role of a senior NCO or a new lieutenant.”

Besides covering the nuances of the NCO/officer relationship, the game also allows players to virtually experience leadership challenges such as a suicide in the ranks, fraternization, and what to do about disrespect to an officer or NCO. Each scenario carries the role players from first interactions, garrison operations, pre-deployment training, combat situations and through redeployment.

“We strived for realism with this program,” said Pokorny. “We (the DOTD staff, the NCO Academy staff) combed over every detail of the script to make it as real and believable as we could. We talked to young lieutenants and we talked to senior NCOs across the Army asking for the reality of these situations.”

Small group leaders and instructors from the NCO Academy have seen good results and many requests for additional copies of the game.

“Using this has created a multitude of discussion in our classes,” said SFC Michael Canedo, an instructor at the FCoE NCO Academy. “We continually get requests from NCOs to take this back to their units. This is not re-teaching our senior leaders, this is just polishing what they already know.”

“Danger Close” has become very popular for its effect on the Soldier, the overall learning experience and provoking out of the box thinking it generates, he said.

“‘Danger Close’ has a real emotional impact. When the Soldiers participate in this program they are completely in control and invested in what is happening,” Keveles said. “We want to get their attention and get them to really think and experience and know how to react to something besides the norm.”

Further development of this new interactive software is in the works to build and improve upon the “Danger Close” experience.

To get more information on obtaining a copy of “Danger Close” contact Sandra Velasquez Pokorny, branch chief of Design and Evaluation DoTD, Fort Sill, OK at 580-558-0355, or e-mail her at pokornys@conus.army.mil.

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