Field Artillery

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A Joint Magazine for US Field Artillerymen *March-April 2005*

The Fight for Fallujah

TF 2-2 IN FSE AAR

Inside:

CTF THUNDER: The 25th Div Arty as a BCT in OEF

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CMO IN BAGHDAD *Red Dragons* Hit the Streets

HQDA PB6-05-2

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DEPARTMENTS

Front Cover: An aerial view of Fallujah, Iraq. Fallujah is roughly 40 kilometers west of Baghdad on the Euphrates River. Its population is about 250,000 people. The Battle of Fallujah was conducted from 8 to 20 November 2004 with the last fire mission on 17 November. The battle was fought by an Army, Marine and Iraqi force of about 15,000 under the I Marine Expeditionary Force (IMEF), sweeping from north to south.

(Photo courtesy of DigitalGlobe)

PURPOSE: (as stated in the first ***Field Artillery Journal*** in 1911): *To publish a journal for disseminating professional knowledge and furnishing information as to the Field Artillery's progress, development and best use in campaign; to cultivate, with the other arms, a common understanding of the power and limitations of each; to foster a feeling of interdependence among the different arms and of hearty cooperation by all; and to promote understanding between the regular and militia forces by a closer bond; all of which objects are worthy and contribute to the good of our country.*

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Issues and Updates:

FFA HQ, FA Units as "Truck Companies," Training and Others

In this column, I deal with some tough issues facing the FA and the Army and provide updates on training initiatives and other opportunities in the FA.

Force FA Headquarters (FFA HQ). With the most recent transfer of authority (TOA) in Iraq between the land component headquarters of III US Corps and XVIII US Corps, we are reminded of both the differences and the shared capabilities of our nation's military combat power. Focusing on the two corps artillery headquarters involved in this TOA, you readily see the extreme value and capability of the FFA HQ.

The role of this headquarters is not simply to enforce and enable subordinate artillery formations to continuously follow and precisely master the five requirements for accurate predicted fire. The FFA HQ does much more than enable the traditional gunnery team solution; in this fight, it also serves as the critical core of effects coordination for the MultiNational Corps-Iraq's (MNC-I's) Joint Fires and Effects Cell (JFEC) teamed with the MNC-I's Air Support Operations Group (ASOG) and information operations (IO) elements. Full-spectrum, lethal and nonlethal and totally joint in design and in effects capability, this organization is truly the "go-to place" and synergizer for effects planning, coordination and execution.

Given the structure of the FFA HQ function in a corps artillery of a mere 55 (+/-) Field Artillerymen, it would seem reasonable that as we move forward into modularity that we recognize this relatively small headquarters as a true joint "bargain." At the three-star UEx level, we cannot afford *not* to include an FFA HQ. At the two-star UEx level, clearly it appears the Fires Brigade will have the responsibility of the FFA HQ.

Being a FFA HQ requires both science and art. The science is readily covered by "cutting edge" technologies and modernized equipment in the hands of trained, disciplined Artillery Soldiers. The art is based on the personal relationship, mutual trust and mutual confidence that the effects coordinator, or ECOORD, (read Fires Brigade commander) establishes with his UEx commander as part of that commander's inner circle of advisors, decision-makers and executers.

Given the decision to resource six Fires Brigades in each of the Active Component (AC) and Reserve Component (RC) formations, 12 total, it becomes obvious that the FFA function will be a geographical challenge as we move into modularity at the UEx level. We will have to work this hard. It's not about command relationships but about relationships among commanders.

It is reasonable to expect that Fires Brigades will be an early and integral supporting brigade for the UEx in every deployment and fight. The task and purpose of this UEx commander is not only to fight the UEx deep in the precision strike fight with UEx-level sensors and responders, but, most importantly, to shape and set conditions that enable its brigade combat team (BCT) fight to be overwhelmingly successful. In the unit life cycle management system as we set the teams, train and certify them for deployment, and then commit them, it traditionally has been the experienced eye of an FA colonel that best can assess and certify for the BCT commanders that their FFA HQ and Fires Battalions are ready.

Not having a FFA HQ led by an Artillery 06 at each UEx station is not a "red star cluster" or an indicator that "the sky is falling"; however, as we "see ourselves," it is critical we continue to create the relationships of trust and confidence with our maneuver commanders. As Artillerymen, we must always ensure our Soldiers and the joint fires formation are, indeed, trained and ready to exactingly high standards. We will "roll up our sleeves" on this one and get to the hard work.

Let me hear what you think. Sound off with letters to the editor and (or) to me at email Redleg@sill.army.mil.

Deploying "Re-Missioned As" Rather Than for "In Lieu of" Missions. Make no mistake, the decide, detect, deliver and assess (D^3A) cycle continues to be executed daily in both Afghanistan and Iraq. Don't believe everything you see on the television or read in the papers. Lethal, kinetic fires continue to occur virtually everyday in both theaters. Knowing that the thunderous devastation of precisely aimed and responsive cannon fires are less than two minutes away is a point of highest confidence and insurance to the guys on the ground doing the "heavy lifting" in those theaters.

That said, a continued source for the Army for trained combat arms Soldiers is our Artillery formations. Recently redeployed from Operation Iraqi Freedom (OIF) II, the Soldiers from the 2d Battalion, 147th Field Artillery (2-147 FA), South Dakota Army National Guard, did not serve on their guns but in the non-traditional FA role of providing fixed-site security, safeguarding captured enemy ammunition (CEA) and driving truck convoys.

We all recognize that the most vulnerable mission in Iraq today is executing ground convoys, and FA battalions are readily trained to execute this challenging mission. In my view, the mission is clearly

acceptable and a mission-essential task list (METL) task in most FA formations.

No question about it—give an FA battalion the mission to "serve in lieu of" a 300-Soldier truck formation and the same leadership and tenacity that puts 95-pound projectiles accurately and responsively on the heads of the bad guys also will get the truck formation from point A to point B.

Under the current plan, some corps artillery formations will deploy to Iraq as truck units. What is concerning is that we may separate the FA battalion leadership, retrain the battalion and then re-mission these artillery formations to deploy *as* truck companies rather than as artillery batteries assigned to execute an "in lieu of" mission. This is a troubling issue. We have situational awareness of this and are working it hard.

Some Training Updates. Fort Sill recently was designated as one of the Army's four *Basic Officer Leader's Course Phase II (BOLC II)* sites. BOLC II is expected to begin the Second Quarter of FY06 and be a six-week resident Training and Doctrine Command (TRADOC) common-core course attended by officers from all branches following commissioning. This means it's likely that some FA lieutenants will attend BOLC II at a site other than Fort Sill.

After completing BOLC II, FA officers will attend BOLC III at Fort Sill, which will instruct branch core competencies for assignments as FA platoon leaders, fire support team (FIST) chiefs and fire direction officers (FDOs) in a 15-plus week curriculum.

Our second *Joint Fires and Effects Course* will be 4 to 16 April at Fort Sill and is in high demand with all seats taken. The next course will be in August. Seats are available through the Army Training Requirements and Resources System (ATRRS) or by contacting the Fort Sill G3 at DSN 639-2199/5124 or (580) 442-2199/5124 or the Joint and Combined Integration (JACI) Directorate at DSN 639-1701/8671 or (580) 442-1701/8671.

TRADOC's pilot *Tactical IO Course*, focusing on IO and effects-based operations at the brigade level and below, is scheduled for 25 April through 13 May at Fort Sill. This will be a terrific course for NCOs, warrants and officers who serve in JFECs coordinating the lethal and nonlethal effects of IO at the BCT level and below. Seats are available through ATTRS or by calling the G3 at DSN 639-2199/5124 or (580) 442-2199/5124.

The pilot *FA Master Gunner's Course* is scheduled for 27 July. Its target is E7 Military Occupational Specialty (MOS) 13B Cannoneers and 13M Missileers who will receive Additional Skill Identifiers (ASIs) A7 and A9, respectively. This four-week technical course will cover training management, maintenance and advanced gunnery. Those senior NCOs who want to attend the course should email gregory.plant@us.army.mil.

Training *Joint Fires Observers (JFOs)* remains a priority task for all FA units. For those units preparing to deploy, training JFOs with simulations is the next best thing to live-fire conducted at home station or at the Combat Training Centers (CTCs).

Most units have a guard unit armory device, full-crew interactive simulation trainer (GUARDFIST). GUARDFIST enables basic fire mission processing, but it lacks the ability to train close air support (CAS), has a marginal capability for training fires in urban terrain and does not have state-of-the-art technology and granularity.

Many of you have read about and may have seen the *Joint Fires and Effects Trainer System (JFETS)* now at Fort Sill that has the *Call-for-Fire Trainer (CFFT)* imbedded in it, including in the urban terrain module. (See the article "CFFT and the JFO" in this edition.) The great news is that the CFFT will replace the GUARDFIST and close the training gaps.

However in the near term, JFETS with the CFFT is found only in Fort Sill courses and in a Special Operations Command (SOCOM) course. For FA units not at Fort Sill with immediate predeployment training needs, there are some very good commercial indirect fire trainers available for CAS training. Units can obtain information about these simulators from the General Services Administration (GSA) catalog. The Army will field both Active and Guard units with CFFTs beginning the latter part of FY05 and into the FY06.

Trainees in *Basic Combat Training* at Fort Sill now are conducting convoy live fire as part of Warrior Ethos training. Mounted in trucks with modified center row seating, Artillery Soldiers engage enemy insurgents in both open and then closed ambush scenarios.

Also, every trainee now has had to go "eyeball to eyeball" with an opponent in combative scenarios, including timed bouts. They arrive at their units understanding the basic moves and techniques.

Additionally, our Field Artillery Training Center cadre now uses the weapon immersion concept of issuing each new Soldier a personal weapon (not a "rubber duck") immediately following the Soldier's first basic rifle marksmanship training. The Soldier maintains the weapon along with a magazine of blank ammunition during all training and in the barracks. This technique teaches each trainee better weapon's discipline and responsibility as well as instills better muzzle awareness.

Consider Becoming an Artillery Warrant Officer. Given the expansion of FA modularity, there is plenty of room to grow and serve your branch in the technical specialties of FA warrants. The skill set required to be successful as a 131A Targeting/Radar Warrant tracks most closely with the skills found in our MOS 13F Fire Support Specialist and 13R Firefinder Radar Operator NCOs, but the most important "ingredients" are leadership coupled with a penchant for attention-to-detail found today in all our FA NCO ranks.

I encourage leaders in every formation to talk about this career opportunity with promising promotion potential for our Soldiers. In mid-May, Chief Warrant Officer Four Walter G. Ayer, Fort Sill's Senior Targeting Warrant Officer, will discuss FA branch warrant officer opportunities in a video stream on our Fires Knowledge Network site on Army Knowledge Online (AKO). Check this out, and give it some thought.

"**Sad Face" for Fort Sill and "Smiley Face" for our Army.** No Soldier likes to lose a Battle Buddy, and that goes doubly if you are the FA Commandant. Recently our senior enlisted Field Artillery NCO, Command Sergeant Major Tommy A. Williams, was selected to depart Fort Sill to assume new duties as the CSM of *America's Corps*, I Corps, at Fort Lewis, Washington. Truly Fort Sill's loss is a win for the FA as we all recognize the tremendous honor of having an FA leader serve as a corps-level CSM. Fort Lewis and I Corps Soldiers are gaining a leader of the highest order.

And we know that CSM Williams will keep a close eye on the summer crop of Warrior Forge ROTC Cadets while at Fort Lewis as well as the Stryker Brigade Combat Team (SBCT) Redlegs at Fort Lewis to ensure our branch remains strong and maintains the highest of standards. *Create the Thunder!*

Artillery and Maneuver—Relevance and Reality

As an institution, we, the FA, always seem fearful that the Army will "move out without us." This fear may be justified, given some of the recent deployments and the redesign of the Army's formations. With this in mind, and with reflection on my year in Iraq commanding an FA battalion that was challenged with many missions, mostly nonstandard missions, I believe the Field Artillery should embark on a new path to ensure relevance.

Soldiers of 1/37 FA practice clearing a building in Iraq.

I propose the FA reassess its capabilities, ensuring it always can provide fire support *and* formally taking on a secondary mission of *fighting as infantry*.

In 2003 as units attacked north from Kuwait into Iraq, they relied on the firepower of all weapons at their disposal and did so with realistic rules of engagement. This allowed the FA to impact many battles significantly until the fall of Baghdad. From DS [direct support] 105-mm to GS [general support] ATACMS [Army tactical missile system] fires, all fires were responsive and, from the reports I read, quite devastating. However, with a relatively short campaign at the higher end of the spectrum of warfare, this opportunity to employ our trade was short compared to the current operational pace and intensity in Iraq.

As the Army continues the long haul in Iraq, it is challenged with an extremely large battlespace and a complex insurgency that continuously challenges the number of "boots on the ground" conducting offensive operations and SASO [stability and support operations]. Many Field Artillery, Engineer, Cavalry, and Armor units find themselves in unique roles that differ significantly, in many cases, from their METLs [mission-essential task lists]. Many are performing as infantry and doing so admirably, given their training, level of resourcing and design. They are successfully filling the gaps to extend the Army's presence on the ground and providing economy-of-force for their higher headquarters.

Why should the FA change its mission to include a secondary ability to "fight as infantry?" Serving as infantry is the reality on the ground in Iraq for most FA units. Daily these units perform maneuver tasks that truly provide an economy-of-force for the effort. Units are taking advantage of the rapid fielding initiative (RFI) to overcome selected shortcomings in equipment. The training has been, thus far, conducted on their own with assistance coming at times from maneuver units in their brigades. The problem is that many FA battalions have not been formally trained or resourced for this fight.

Based on the reality of both the operations in Iraq and the capabilities of non-infantry units performing them, a unique thing is happening in the force. The METLs of FA battalions are being altered to include maneuver tasks. As the Army continues to modularize its brigade combat teams [BCTs] into units of action (UAs), this trend is likely to continue. However, I also would like to point out that as the METLs of these FA units change, so must the training base outside of the battalion. We must institutionalize changes to support the employment of these units.

Some may argue that this is a unique moment in time, that the current use of artillery as maneuver will be short-lived. I disagree. I believe that future operations could prove just as challenging once the higher intensity of combat is over. The Artillery needs to be able to shift gears from fire support to maneuver. I do not propose FA battalions seize terrain; however, they can certainly hold, control and shape it once it has been seized, as they are doing now

The Field Artillery should use the reality of the current array of forces on the ground in Iraq for a justification to fight for additional resources from the Army. The Soldiers in Artillery battalions should have the equivalent individual and crew-served weapons systems, optics (both day and night vision) and communications equipment for small-unit actions as their Infantry brethren. We must continue the fight to get this kit into the hands of Redlegs and into the schoolhouse at Fort Sill.

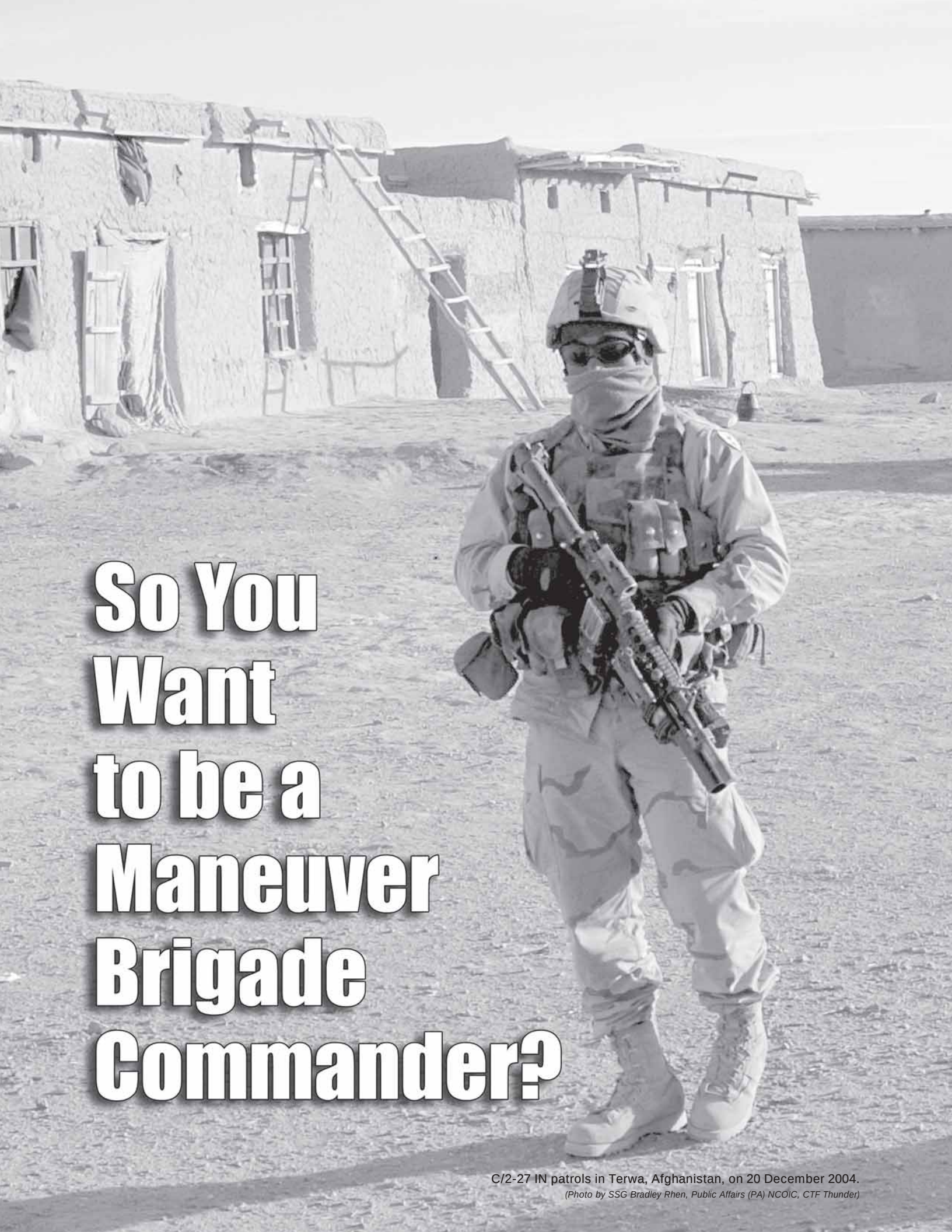
With that said, Fort Sill also must look inward and adjust its training at every level within the schoolhouse. This is challenging, given current resources, but it must happen. It must begin with an Artillery-Infantry mindset as soon as new Soldiers arrive and be fully integrated into *all* courses of instruction.

I find it disappointing and concerning that some GS units have been earmarked for future operations in Iraq as transportation units. Without a doubt, we, as a branch, are going to provide whatever is required for the current fight; however, I ponder the difference these same units could make if they were deployed to fight on the ground conducting maneuver tasks and controlling battlespace.

I look at this period as one of incredible opportunity for the branch. What brigade or higher commander would ever propose leaving his artillery at home if he were assured his artillery could provide the force a secondary role and preserve options?

We have proved much in Iraq as a branch serving as maneuver and enjoyed much success; however, much of that success is still limited by the base of training and physical resources. I propose changing the mission and the training while continuing to fight for Soldier equipment now. Once this is accomplished, relevance will never be questioned again.

LTC Steven A. Sliwa, FA
Former Cdr, 1-37 FA, 3/2 SBCT
Fort Lewis, WA



So You Want to be a Maneuver Brigade Commander?

C/2-27 IN patrols in Terwa, Afghanistan, on 20 December 2004.
(Photo by SSG Bradley Rhen, Public Affairs (PA) NCOIC, CTF Thunder)

CTF Thunder in Afghanistan

By Colonel Gary H. Cheek

As one might expect, deployment orders sending the 25th Infantry Division (Light) (25th ID), *Tropic Lightning,* into combat for the first time since the Vietnam War caused great excitement all across the military community at Schofield Barracks, Hawaii. Unfortunately, even though the division would deploy into two theaters, Afghanistan and Iraq, the Division Artillery was not on the original troop list—we would, it seemed, be left behind.

However, that all changed on 21 February 2004 when the Department of the Army tasked the division to source a second maneuver brigade headquarters in Afghanistan. Our commanding general tapped the division artillery (Div Arty) for this mission; we, ultimately, were known as Combined Task Force (CTF) Thunder. Suddenly we were on the team; we were elated with the chance to make a contribution to our nation's Global War on Terrorism, albeit in a non-traditional role.

In just over 90 days, we deployed to Afghanistan to direct operations in Regional Command East as a provisional infantry brigade responsible for 16 provinces in the eastern region of Afghanistan.

After eight months of a yearlong tour in theater, this article examines the experience of the 25th Div Arty in Afghanistan and offers some thoughts on maneuver brigade command for Field Artillerymen and combined arms warriors everywhere.

Understanding the Conflict in Afghanistan. Sun Tzu's maxim to "know the enemy and know yourself" is sound advice for any conflict; the war in Afghanistan is no exception. Add to this the people, weather, terrain, culture, regional neighbors and a host of foreign interests, and Sun Tzu's words take on incredible complexity.

Yet understanding the operational construct is fundamental to efficiently applying resources and operations to achieve the effects necessary to accomplish the mission and, ultimately, win the conflict. This was one of our first endeavors as a brigade headquarters: examine the conflict and commit ourselves to an overarching construct that would serve as the foundation for our operations.

"Seeing the enemy" might seem simple at first—Taliban, Al Qaeda and the other insurgent elements we faced in Afghanistan. Yet, what is the enemy center of gravity? Does one exist with so many factions? Does it matter?

In our assessment, we determined the enemy's center of gravity to be his radical ideology—a binding force that centers on hatred of the West and serves to motivate combatants, attract recruits and, significantly, gain the sympathy and support of the general population. We were careful to differentiate between the violence, Jihad and intolerance of the various terrorist groups, the discriminators that made these actors and their ideology "radical," and the more moderate and mainstream interpretations of Islam by other groups.

Identifying this center of gravity drives home that this war is larger than just kinetic operations against insurgents and their leadership; it is also about the Afghan people. To be victorious we must win their trust and confidence through our actions, reconstruction of their infrastructure and information operations (IO) that advocate moderate Islam for the people with a peaceful and prosperous future for their children.

I would argue that getting this *right* is essential to success—misunderstanding the enemy drives you to operations that may do little to further your cause and, in the end, could even be counterproductive.

"Seeing yourself" also would seem

simple enough—perhaps just laying down the order of battle for our own forces and those of our allies. Yet, what stands out as the center of gravity?

At first blush, we might look for combat force, some aspect of our ability to strike the enemy or some asymmetrical advantage we have over our adversary, such as air power. However, our assessment is that the Afghan Government is the friendly center of gravity. This, again, is important, as it directs us to do more than combat operations against the insurgents—it directs us to continuously strengthen the Afghan Government while attacking those forces that seek to disrupt or destroy it—be they enemy or some aspect of the environment.

Photo by SSG Bradley Rhen, PA NCOIC, CTF Thunder

COL Gary H. Cheek, Commander of Combined Task Force (CTF) Thunder, and CPT Tage Rainsford, Commander of C Company, 2d Battalion, 27th Infantry, listen to village elders on 20 December 2004 in Waza Khwa, Afghanistan.

As the government gains strength and wins the trust and confidence of the populace, the people will, in turn, deny sanctuary, support and manpower to the enemy. The people's support is just as essential to success as understanding the enemy.

As for the environment, CTF Thunder commands the eastern portion of Afghanistan, 16 provinces in an area roughly the size of the state of Iowa. The terrain ranges from rolling high desert in the southeast to rugged mountains in the west and mountainous regions in the north with low-lying river valleys and sparse forests. Overall, the region is arid, hampered by drought over the past several years. Temperatures are significantly impacted by altitudes: lower areas have hot summers and mild winters while the high deserts across the mountain ranges have hot summers and cold winters.

Paved roads are rare—some provinces have none. Riverbeds are the typical road networks, and such conditions make for slow road traffic.

Afghan society is tribal, with strong village structures and elder influences and a host of alliances, feuds and disputes that have been around for generations.

The tribal society, compartmentalized terrain and size of the area of operations (AO) mandates distributed operations over a nonlinear battlefield. It places enormous trust in company- and platoon-level commanders as each must operate independently with great responsibility.

This construct is the basic foundation for our operations in Afghanistan: defeat the insurgents, strengthen the government and win the trust and confidence of the population. Our goals follow the doctrinal basis for counterinsurgency warfare where you seek to separate guerillas from the population.

We offer the Afghans tremendous advantages over our adversaries: a promise of security, good governance, reconstruction of the war-torn infrastructure and, above all, a peaceful and prosperous future. Our adversaries offer threats, destruction of property, oppression of various groups and a virtual guarantee that violence will continue through many generations. It is a compelling difference, one that gives us enormous credibility with the Afghan people as they see the genuine sincerity of American policy through our actions.

CTF Thunder: A Study in Diversity. Matched to this operational construct is CTF Thunder's rather unique task organization. It consists of three US infantry battalions: 2d Battalion, 27th Infantry (2-27 IN), 25th Division, the *Wolfhounds;* 3-3 Marines from Marine Corps Base Hawaii, *America's Battalion*; and 3-16 IN, 29th Infantry Division (Light), Virginia Army National Guard, *Normandy*. We also have three Afghan National Army infantry battalions: the 2d and 3d Kandak Battalions and the 23d Kandak Battalion. This is an infantry footprint that may increase as time goes on.

In addition, we have eight Provincial Reconstruction Teams (PRTs) that are interagency organizations focused on reconstruction and good governance at various locations within our AO.

We have several other attachments, but one element we lack is a direct support (DS) Field Artillery battalion—although we share two of the four firing batteries from our sister brigade to the south.

That we can bring these diverse units together and be successful is a tribute not only to our headquarters, but also to our incredible teamwork and the versatility of our military.

In addition, we host a variety of other units and agencies throughout our AO, each with its own missions, capabilities and chain of command. While on the surface one would see unity of command issues from such a structure, much of this is obviated by continuous coordination and unity of effort toward common goals. It takes continuous emphasis to bring units together and continuous oversight of all operations to ensure the effects generated by any operation contribute to the overall strategy for the region.

Key Lessons. Against this backdrop of a diverse organization thrust into a complex operating environment, what are the key lessons I learned?

War really is an extension of politics. In a counterinsurgency conflict, such as the one in Afghanistan, the political aspects of operations are perhaps more important than the combat operations. All company-level leaders must devote considerable energy to engaging a host of local informal and formal leaders, to include those who are part of the government as well as tribal elders and religious mullahs. Influential leaders

who support coalition efforts contribute to our overarching goal to separate insurgents from the population and strengthen support for the Afghan Government.

IO takes continued, well organized and synchronized efforts as well as positive and continuous relations with both local and international press. It means being sensitive to the Afghan culture, adapting to changes in the environment and, above all, being forthright and honest in everything we do.

An additional benefit of working extensively with the local population is that it builds relationships between the Soldier and the people, one that engenders a desire within the Soldier to help the people through both combat operations and humanitarian assistance. The Afghan conflict, in essence, is a human battlefield where the objectives are not hills or towns, but rather the people themselves.

Commit yourself to an operational construct. Through our military schooling, we are well versed in the orders process and such mundane, but essential, tasks as mission analysis and the military decision-making process (MDMP).

Many times leaders are reluctant to venture into identifying the operational cornerstones upon which they will build their plans. This is largely because no leader wants to suffer the embarrassment of fixating on a "center of gravity" only to be shown that his intellectual "sword" has a few dings on the edge.

However, committing yourself to this endeavor reaps some veiled benefits that can greatly enhance operations. For example, supporting national elections might seem an odd fit for a military force, and some might say that elections rightly belong in the domain of the State Department or United Nations. Yet, by viewing the Afghan Government as our center of gravity, we saw the elections as a forcing function to accelerate the growth and strength of government leaders and their security apparatus.

Keeping your eye on the center of gravity keeps your mind open to opportunities that might otherwise be hidden in less sophisticated thinking. In the case of Afghan Presidential Elections, the successful elections elevated the prestige of the government, increased the confidence of the local police and the Afghan National Army and greatly accelerated the growth of all. The elections were a decisive win with lasting positive results.

Write terms of reference for senior leaders. While this is always a good practice, it is particularly important for combat deployments where inevitably there will be a lot of non-standard requirements and command relationships.

For example, we were blessed with a deputy commanding officer (DCO), an Infantry officer pre-positioned for battalion command. While there could be concerns that adding a DCO would cause friction between him and the executive officer (XO) or even the S3, having written terms of reference for key leaders—the DCO, XO, S3 and command sergeant major (CSM)—helped clarify their roles and responsibilities.

In the end, personalities make a big difference, but our DCO became the staff synchronizer and planner, leaving the XO to focus on logistics and base operations and the S3 to focus on current operations and near-term planning. My experience has shown me the value of writing terms of reference as well as the extraordinary value-added a DCO provides.

Build teams and relationships for the future. While this may seem obvious at first glance, building teams is *key* to success and must start as early as possible. Continuous, positive contact with provincial leaders at all levels is like financial investments—some will pay big dividends while others bear no fruit. Likewise, establishing positive and cooperative relations with other units reduces friction when circumstances require working together.

The key is that you have to build relationships to have them when you need them. A great example of this was when we had three non-combatant deaths in one of our provinces. The relationship the battalion commander had established with the governor of that province proved to be key in defusing a very difficult situation. Without that positive relationship, the governor might have aggravated the situation to advance his own interests.

The same holds true with joint and combined combat operations. Welcoming other units into your tent, contributing forces to their operations, providing support for their operations and sharing intelligence all pay off when you need to include their capabilities in your operations. Such was the case in one particular operation in Kunar Province that included forces and assets from no less than eight separate organizations.

Photo by CPL Rich Mattingly

Marines from 3d Battalion, 3d Marine Regiment, part of CTF Thunder, leap from a CH-47 Chinook helicopter onto the snowy hills of Korangal, Afghanistan, during Operation Spurs in January.

Commanders and leaders can't wait until they need help to build relationships—by that time, it's too late.

Be positive in all communications—up and down. A wise commander shared an interesting philosophy with me: "'Bad mouth' no one." His point was nothing good comes from critical or cynical comments about other units, leaders or Soldiers. To that

end, we established two philosophies within the Thunder Brigade: First love your higher headquarters, and second ensure our own headquarters is adding value to the operations of subordinates.

Loving our higher headquarters was not difficult as its guidance, policies and products were all great assets to our operations and its various staff sections had superb talent. Positive relations with our higher headquarters fostered increased productivity based upon healthy relationships between the various staff principals and their counterparts.

Likewise, our relationships with our 11 subordinate units had to be founded on actions—not words. We were determined not to be a headquarters that focused simply on deadlines and reports. We listened patiently to the needs of our subordinate units and pushed hard to remedy every issue they had. Our S4 section was a particularly heroic section, meticulously tracking every material request and following it up until completion.

Positive communications facilitate cooperation and, in the end, enhance operations to the benefit of all.

Trust everyone—but keep your powder dry. Conducting brigade-level operations in an AO the size of Iowa is a bit larger than our doctrine suggests. The size of the AO mandates decentralized operations with a clear understanding that neither you nor your forces can be everywhere at once. Brigade-level operations synchronizing multiple battalions in our AO are rare. We execute virtually all operations by allocating resources and giving guidance. This places a premium on trust—afforded at every level of command.

Battlefield circulation became key, and it is how I "keep my powder dry," ensuring subordinates are executing operations within our intent and that of the Combined Joint Task Force 76 (CJTF-76) Commanding General. I learned that our subordinates are magnificent in execution and that I gained more from my experiences with them than they could have gained from any "pearls of wisdom" or corrective actions from me.

In nonlinear operations, a commander unaccustomed to trusting his subordinates will stifle initiative and, while he may ensure perfection of a few missions, he'll get far less done than he would by giving guidance, providing resources and trusting his subordinate leaders to accomplish multiple missions at once.

I learned to trust my instincts as well, placing myself in operations where I felt my personal presence would be a combat multiplier.

Keep the fire in your eye! Spending a year deployed is a long time. As with any operation of this duration, it is important to continuously challenge the organization and its subordinate elements. The commander should never be content with the status quo and should always be looking for a way to improve operations and the efficiency of the organization. Just as important, he must recognize those Soldiers and leaders who take up the challenge and find new ways to do business.

Interestingly, innovation is one of the true virtues of a yearlong deployment. It took us several months to really understand the battlefield as well as the complexities of our operations. By constantly pushing innovation, we moved forward in virtually every area—measuring effects, battle tracking, counterstrike, intelligence fusion, reconstruction, good governance, communications systems, Soldier quality of life, air-ground integration, public affairs—the list is unending.

Challenging Soldiers, Sailors, Airmen and Marines to "keep the fire in their eye" ensures your unit always moves forward and, just as important, keeps your joint troopers excited about the contributions they are making to the mission.

Some Thoughts on Maneuver Brigade Command. In the movie *Cool Hand Luke*, the warden admonished Luke, telling him "A man's got to know his limitations." That's pretty sage advice that certainly speaks to me as a Field Artillery officer commanding an Infantry brigade in combat. No officer has perfect experience; all are missing some job, some experience that would make them a better leader. Not being an Infantryman might be enough for many to say I am not qualified for my current position. Fair enough.

But I would say that it begs the question: Must an officer be an Infantryman or tanker to be qualified to command a combined arms formation at the brigade level? I'll leave the answer to the Army's leadership—but I will offer to our younger audience some thoughts about my experience and what has helped me the most as an FA maneuver brigade commander that might help them in the future.

Service in DS units. I have served in both general support (GS) and DS FA units. My DS experience included operations with armored cavalry, mechanized infantry and armor units. Oddly enough, it did not include light infantry. But, my experience with five different brigade-level commanders and intimate workings with the staffs at the field grade level were essential to my ability to direct a maneuver brigade staff.

For all Field Artillery officers, I would advocate service in DS units. Without this experience, you simply will not fully understand the complexity and nature of maneuver operations.

The School of Advanced Military Studies (SAMS) and the Advanced Strategic Arts Program (ASAP). SAMS at Fort Leavenworth, Kansas, added an intellectual edge to my experience base, giving depth to my understanding of current operations in the crucible of military history and theory. Spending a year studying the profession of arms enlightened me in the art and science of war, and the follow-on year as a division planner helped me understand the MDMP and the complexities of war plans, exercises and operational planning. These experiences enabled me to better understand the complex environment of Afghanistan and lead our staff through the campaign planning process for our yearlong deployment.

I also was fortunate enough to attend ASAP at the Army War College, Carlisle Barracks, Pennsylvania. This program focused on strategic planning and joint and combined operations. In addition, it introduced me to emerging warfighting concepts, such as effects-based operations (EBO).

Taken together, these programs offer officers opportunities to challenge themselves intellectually and provide a base of knowledge for analysis and decision making.

Observer/Controller (O/C) at the National Training Center (NTC), Fort Irwin, California. It is hard to beat the tactical skills you develop as an O/C at any of our Army's training centers. A general officer once told me, "I thought I was a pretty damn good battalion commander until I went to be an O/C at the NTC and found out how little I knew about our profession." Truer words have never been spoken as O/Cs stay immersed in tactics, techniques and procedures (TTPs).

Having spent two years after battalion command as Wolf 07, I was amazed at how much I learned about warfighting

and the synchronization of combined arms warfare on the battlefields of the NTC. There is, perhaps, no greater professional experience for both officers and NCOs than to serve as O/Cs at one of our Combat Training Centers (CTCs).

So you want to be a maneuver brigade commander? It is a great honor to serve our nation at a time when we face such an enormous threat. I am grateful for the opportunity to be part of this fight in any capacity, and my time as a Div Arty commander leading an infantry brigade in combat is the highlight of my career. Our experiences in Afghanistan are rich in their lessons and rewarding in accomplishments.

While there is some uncertainty in the future of Redlegs' brigade command opportunities, I encourage all Field Artillery officers to "stay the course" and choose the path that will make them the best combined arms leaders possible.

From the observation post (OP) to the battlefield coordination detachment (BCD), Field Artillerymen are the Army's integrators of joint fires and effects, duties that keep us intimately involved in combined arms operations. As the Chief of Field Artillery said in his January-February column, Field Artillerymen have a "feel for the battle—a deep understanding that we share instantly at every level … Field Artillerymen, quite simply, '*get* it.'"

The experiences and training you receive today are what ensure that you will "*get* it" and will be essential to your development as a leader in the future—perhaps of a maneuver brigade.

Colonel Gary H. Cheek commands the 25th Infantry Division (Light) Artillery out of Schofield Barracks, Hawaii. He deployed to Afghanistan for Operation Enduring Freedom in June 2004 to command the 25th Division's Combined Task Force Thunder, an Infantry brigade, for 12 months. He also served as the Senior Fire Support Trainer (Wolf07) at the National Training Center, Fort Irwin, California. Other assignments include commanding the 1st Battalion, 9th Field Artillery (1-9 FA), 3d Infantry Division (Mechanized), Fort Stewart, Georgia; and serving as Executive Officer of the 1-41 FA and G3 Plans Officer, both in the 24th Infantry Division (Mechanized) at Fort Stewart; and Exchange Officer in the Canadian Field Artillery School at the Canadian Forces Base Gagetown, New Brunswick, Canada. He commanded A/2-28 FA, part of the 210th Field Artillery Brigade, VII Corps, Germany.

M777 Starts Fielding in the 11th Marines

The new M777 lightweight 155-mm towed howitzer will begin fielding in May to the 3d Battalion, 11th Marines at Twentynine Palms, California.

The M777 is replacing the aging 155-mm towed M198 howitzer. Some of the M777's greatest improvements are in its mobility, transportability, survivability and lethality. The M777 can be emplaced and ready to fire in less than two minutes, which is significantly faster than the M198.

Marine Unit	Location	M-NET	O-NET
FY05			
11th	29 Palms, CA	May 05	May 05
11th	Camp Pendleton, CA	Aug 05	Aug 05
FY06			
EEAP	29 Palms	Feb 06	N/A
11th	Camp Pendleton	May 06	May 06
10th	Camp Lejeune, NC	Jun 06	Jun 06
10th	Camp Lejeune	Jul 06	Aug 06
10th	Camp Lejeune	Sep 06	Sep 06
FY07			
10th	Camp Lejeune	Oct 06	Oct 06
5th SBCT	Schofield Barracks, HI	Dec 06	Dec 06

Legend:
EEAP = Enhanced Equipment Allowance Pool
M-NET = Maintenance New Equipment Training
O-NET = Operations New Equipment Training
SBCT = Stryker Brigade Combat Team

Current Fielding Schedule for the M777

The new weapon can be rapidly displaced within two to three minutes, allowing the battery to shoot and move before the enemy can return fire. Its light weight (less than 10,000 pounds) and independent suspension allow the weapon to travel over rougher terrain (worldwide, that amounts to about 30 percent more terrain) and be sling-loaded under more aircraft than the M198.

It fires all current and planned 155-mm munitions. Although its max range is still 30,000 meters with current rocket-assisted projectiles, that range will extend to more than 37,000 meters when firing the new global positioning system/inertial navigation unit (GPS/INU) precision-guided Excalibur munition. The max rate of fire is four rounds per minute while the sustained rate is two rounds per minute.

Within a year of the initial M777 deliveries, both the Marine Corps and Army will start taking delivery of the M777A1, which adds a digital fire control system (DFCS). The DFCS provides the howitzer highly accurate self-location and directional control. With the introduction of DFCS, the battery only requires survey control points to initialize the system.

The section chief will have a navigational aid inside the cab, and the weapon has an onboard single-channel ground and airborne radio system (SINCGARS) and amplifier for digital communications. This provides greater flexibility for the howitzer, which no longer will be tied to wire communications.

The M777A1 provides commanders greater flexibility in getting to the fight, carrying out their missions and quickly moving to safe locations to carry out subsequent missions.

If units have questions, they can call me at the M777 New Equipment Training Team (NETT) at Fort Sill, Oklahoma: Commercial (580) 442-4418/5301; the DSN prefix is 639. Units can email me with their questions: waco.lane@sill.army.mil.

Capt Waco Lane, USMC
XO, M777 NETT, Fort Sill, OK

Maneuver and other Missions in OIF

1-37 FA 3/2 SBCT

By Lieutenant Colonel Steven A. Sliwa

1st Battalion, 37th Field Artillery (1-37 FA), the FA battalion assigned to the Army's first Stryker Brigade Combat Team (SBCT), conducted combat operations in Iraq from November 2003 to October 2004. The deployment of 3d Brigade, 2d Infantry Division (2/3 SBCT) to Iraq was the first operational deployment of an SBCT to combat.

During this yearlong effort in Iraq, 1-37 FA conducted many operations in support of the brigade—conducting counterfire and civil military operations (CMO), securing key assets, processing detainees, training the Iraqi National Guard as well as conducting maneuver operations in 1-37 FA's battlespace. The battalion proved flexible and capable of meeting the demands and preserved options for the brigade commander by serving as an economy-of-force maneuver unit.

Just as other FA battalions before and FA battalions currently serving in a maneuver task force (TF) role in Iraq, 1-37 FA had to grow in terms of honing new skill sets, deliberately reorganizing its structure and preparing for many unknowns. Most challenging for the battalion and its leadership was serving in the role of infantry—maneuvering and controlling an area of operations. But, like other FA units, 1-37 FA proved it was fully capable of serving in this capacity.

Tough Decisions and Breaking New Ground. During the final months of preparation for deployment, the battal-

Soldiers from 1-37 FA train at Forward Operating Base (FOB) Endurance at Qayarrah West Airbase, Iraq.

(Photo by SPC Gretel Sharpee, 139th Mobile Public Affairs Detachment)

ion conducted a mission analysis and created a training plan to set up the batteries and Soldiers for success. Immediately, we established communications with FA battalions in Iraq to harvest current tactics, techniques and procedures (TTPs) and enemy trends, building a better understanding of the operating environment and the unique missions being performed by fellow Redlegs. This was a "real-time" source of data from the theater and the basis of our training.

We altered the current battalion mission-essential task list (METL) and focused resources on skills that previously had not been at the forefront (see Figure 1). Additionally, the task of massing battalion fires was eliminated from training plans. We realized that, given the small-unit decentralized operations in Iraq, it was unlikely there would be a demand for massed fires or that the three batteries would be in position and ready to fire simultaneously. Instead, the battalion ensured each firing battery was proficient in providing fires. The battalion also developed standing operating procedures (SOP) for small-unit dismounted military operations in urban terrain (MOUT).

Then the battalion focused on individual and small-unit tasks to bring Soldiers to a new level of confidence in weapons proficiency and battle drills that platoons and batteries could execute in support of the missions *we thought* we would be assigned. The batteries were organized into flexible organizations consisting of two platoons (built by dividing the four, 10-man howitzer sections) and a headquarters detachment (created from the fire direction center, or FDC, and remaining battery personnel).

Another tough decision for 1-37 FA was to train without all its assigned equipment to have additional high-mobility multipurpose wheeled vehicles (HMMWVs) modified into "Special Forces-like gunships." This later would prove to be one of the best moves we made; these vehicles were the mainstay of our force and operations.

Finally, we had to change the mindset of the battery leadership and Soldiers. This was challenging as we had no way to plan and rehearse for specific missions before deploying. Both the brigade and battalion missions were unclear. For example, not until 3/2 SBCT had conducted operations in theater did we know we would replace the 101st Airborne Division (Air Assault). Based on our analysis and feedback from units in Iraq, we took a very broad approach to training on dismounted skills to cover a spectrum of potential operations.

Mission Statement:
On order, 1-37 FA deploys rapidly by land, sea or air to any AOR and provides lethal, nonlethal and joint effects to the SBCT. Be prepared to establish node security, force protection and stability and support operations (SASO) in order to provide economy-of-force to the SBCT.

METL:
- Deploy/redeploy.
- Coordinate and control battalion moves.
- Conduct counterfire operations.[1]
- Control delivery of fires.[1]
- Coordinate/monitor CSS operations.
- Conduct force protection.[2]
- Conduct node security.[3]
- Provide survey, Met and radar support.[4]

Notes:
1. *Tasks receive reduced level of training (based on information at the time).*
2. *Basically a full-time implied task—was placed on METL to provide additional focus.*
3. *Based on the likelihood of having to secure FOBs, entry points, fixed sites, etc.*
4. *Based on the likelihood that 155-mm fires would not be used extensively but that survey and Met would still be required for mortars and radar intelligence always would be required.*

Legend:
AOR = Area of Operations
CSS = Combat Service Support
Met = Meteorological
SBCT = Stryker Brigade Combat Team

Figure 1: 1st Battalion, 37th Field Artillery (1-37 FA) Modified Mission Statement and Mission-Essential Task List (METL) Approved July 2003. The last three tasks in the METL were added for deployment training.

Operation Arrowhead Blizzard in Samarra. The unit's first combat experiences were during Operation Arrowhead Blizzard in Samarra. 3/2 SBCT conducted operations with the 3d Brigade, 4th Infantry. During this operation, TF 1-37 FA conducted a myriad of tasks in support of the brigade. (See Figure 2.)

C Battery task organized with sappers from C/1092 EN and constructed and operated a forward detainee-processing center to relieve the forces operating in Samarra of the task of processing and transporting detainees. Using its firebase construction skills, the battery established a small strongpoint on the outskirts of Samarra that also provided security for several retransmission teams and a forward medical treatment facility.

The task force provided 24/7 route security along the two major lines of communication (LOCs) that led from the brigade base of operations on Forward Operating Base (FOB) Pacesetter, approximately 35 kilometers from Samarra. B Battery secured the northern route using our HMMWV gunships.

HSB (-)
  CRT, 296 BSB
  FFT, 296 BSB
A Battery (-)
B Battery (-)
C Battery
  1/HSB/1-37 FA
  1/1/A/1-37 FA
  1/C/1092 EN
C/52 IN (9 ATGMs and 1 Fire Support Stryker Vehicles)
  1/1/B/1-37 FA
C/1092 EN (-), WVARNG (Corps Wheeled EN Battalion MTOE)

Legend:
ATGMs = Anti-Tank Guided Missiles
BSB = Brigade Support Battalion
CRT = Combat Repair Team
EN = Engineers
FFT = Field Feeding Team
HSB = Headquarters and Services Battery
IN = Infantry
MTOE = Modified Table of Organization and Equipment
WVARNG = West Virginia Army National Guard

Figure 2: Task Force (TF) 1-37 FA Task Organization—Samarra. The key tasks in Samarra were to provide counterfire; secure lines of communications (LOCs) to Samarra from FOB Pacesetter; hold, process and transport detainees; and provide a FOB quick-reaction force (QRF).

Equipped with the anti-tank guided missile (ATGM) variant of the Stryker vehicle, C/52 IN secured the more dangerous southern route. C/52 IN was tasked-organized with a howitzer section from B Battery for greater haul capacity for barrier materials to construct traffic control points (TCPs). The section also provided the additional men required for this mission.

A Battery provided a 6400-mil firing capability on FOB Pacesetter. Three platoons of two howitzers were laid and set on different azimuths to decrease shift time. The FDC directed the platoon to the required set of howitzers during fire missions.

This paid off one night as rockets attacked the FOB. The Q-36 Firefinder radar, also located on the FOB, acquired the attack, and A Battery executed counterfire, preventing 21 additional rockets from being fired at the FOB.

The missions during this phase of the battalion's deployment were marked by dispersed and independent operations at the battery and company level. Command and control was challenging but made easier via the use of Force XXI battle command brigade and below (FBCB^2).

As a new maneuver commander, I relied on my observations of the brigade commander during many training events and my experiences as a fire support officer (FSO) at the company, battalion and brigade levels to lead the operations. I positioned myself forward at the detainee site because it allowed me to best influence the majority of the task force. This was a departure from the traditional positioning I had experienced—"snaplinked" to the brigade commander.

Mosul and Relief in Place (RIP) with the 101st. After operations in Samarra, the brigade moved north away from the Sunni Triangle and executed an RIP with the 101st Division. The SBCT took over the battlespace of a division and was stretched across an area approximately 137 miles by 165 miles. In other terms, our 5,000 troops replaced the 25,000 troops in the division and its attachments.

As 1-37 FA arrived in Mosul, its mission was yet to be assigned, based on the complexities of the RIP with the 101st. Analyzing the area of responsibility (AOR) and the capabilities of his units, the brigade commander did not assign a mission to 1-37 FA until late into the RIP. This proved challenging for the battalion. However, our earlier experiences with ambiguity allowed us to remain "steady in the harness" and focus on improving force protection to vehicles and Soldier living areas.

HQs Plt/HHC 5-20 IN*
- LST, 296 BSB
- 445 CAT, CAARNG
- 136 THT, 1-14 Cav, 3/2 SBCT (DS)
- 333 THT, 310 MI Bn (DS)
- 335 THT, 310 MI Bn (GS) (TACON)

C/52 IN (9 ATGMs and 1 Fire Support Stryker Vehicles)

C/1-14 Cav (9 Reconnaissance, 2 Mortar, 1 Fire Support and 1 Medical Evacuation Stryker Vehicles)

C/276 EN (-), VAARNG (DS) (Corps Wheeled EN Battalion MTOE)

102d ING Battalion (OPCON)

**5-20 IN provided convoy security from April through June 2004.*

Legend:

CAARNG =	California Army National Guard
CAT =	Civil Affairs Team
Cav =	Cavalry
DS =	Direct Support
GS =	General Support
HHC =	Headquarters and Headquarters Company
ING =	Iraqi Army National Guard
LST =	Logistic Support Team
MI =	Military Intelligence
OPCON =	Operational Control
Plt =	Platoon
SBCT =	Stryker Brigade Combat Team
TACON =	Tactical Control
THT =	Tactical Human Intelligence (HUMINT) Team
VAARNG =	Virginia Army National Guard

Figure 3: TF Sykes—Qayarrah. The task force's key tasks were to secure the area of operations (AO), command and control (C^2) the FOB at Qayarrah West Airbase, train Iraqi Army National Guard and secure Ammunition Supply Point (ASP) Jaguar.

1-37 FA's assignment eventually became securing a large area of operations (AO) encircling Mosul (approximately 1,700 square miles). This allowed the brigade commander to place his infantry battalions in Mosul and establish an economy-of-force on the outer periphery of the city.

TF 1-37 FA was quartered in Mosul and maneuvered through the city to get to anywhere in the AO. This built a unique proficiency among the platoons that navigated daily in the built-up terrain.

C Battery had the mission to secure FOB Freedom, the home of the brigade headquarters and TF Olympia, the brigade's higher headquarters. C Battery maintained this security mission until the battalion redeployed

During this phase of the operation, TF 1-37 FA reorganized, losing C Battery and some engineers and gaining a target acquisition battery (TAB) (A/151 TAB) from the Minnesota Army National Guard. In Mosul, TF 1-37 FA secured the AO and a large fuel transport point, built Iraqi institutions, mentored the Iraqi Police and facilities protection services force (FPSF), and improved the Iraqi infrastructure.

It was in this phase that 1-37 FA gained its "sea legs" in conducting "cordon and knocks" as well as combined operations with the Iraqi Police. Additionally, the battalion standard was to conduct dismounted patrols and "flash" TCPs during every mission in the AO to increase both maneuver proficiency and our local presence. During these operations, 1-37 FA captured weapons dealers, counterfeiters and several arms caches and responded to a number of fights within the battlespace.

1-37 FA also prosecuted an intensive CMO campaign to build up the legitimacy of 10 Iraqi city councils as the country approached Transfer of Sovereignty. Based on the lack of civil affairs teams (CATs), Redleg officers executed the CA tasks.

In Mosul, the battalion's depth of leadership was put to the test. Due to a unique tailoring of forces and personnel shortages, I left TF 1-37 FA in the capable hands of the battalion executive officer (XO), Major Rodney L. Olson, to take command of TF Sykes for six weeks. This TF was at FOB Regulars (later named Endurance) at Qayarrah West Airbase, approximately 45 miles south of Mosul. The assignment included a battlespace of about 6,360 square miles (slightly larger than Connecticut).

TF Sykes was a unique TF (see Figure 3) consisting of units that remained in the vicinity of Qayarrah. Its parent headquarters (5-20 IN) was successfully executing convoy security operations to reopen LOCs south of Balad and Baghdad previously interdicted by the enemy.

This was an awesome task—a Redleg commanding a TF with an *ad hoc* staff and no FA units. Additionally, I had one Iraqi National Guard (ING) battalion

under the operational control (OPCON) of the TF. I relied on my experiences gained during operations in the periphery of Mosul and placed my faith in the staff and units that had a thorough knowledge of the AO as I became familiar with the AO and situation.

I matured during this experience, in terms of decision making. This situation forced me to rely on sound reasoning linked to plans and operations because I was not familiar with the personalities, talents, strengths or weaknesses of the commanders, staff or Soldiers in the task force. Learning to live outside of one's comfort zone can be taxing, but, in the end, it was very worthwhile.

Change of Mission and Link Up. In June, 1-37 FA handed over its AO around Mosul to two Infantry battalions and moved south to Qayarrah where I was already in command. The brigade had accomplished its security and CMO tasks in Mosul and shifted its effort to secure a new AO and train and integrate the ING. This would be the final set for TF 1-37 FA in an AO the size of Rhode Island (see the task organization in Figure 4).

Conditions in the Tigris River Valley and the vicinity of the FOB became more challenging and dangerous as TF 1-37 FA arrived. The situation required the task force to execute many cordon and knocks and cordon and searches, conducting many with the ING forces it had trained.

Other missions included securing a mass gravesite in the vicinity of Al Hadr. This site was where large numbers of Kurds were systematically murdered. It was identified as a crime scene that could provide evidence against Saddam Hussein. We also secured a large former Iraqi ammunition storage point, where munitions were being destroyed by US contractors, and the brigade's retransmission site.

Not withstanding the offensive operations mentioned earlier, one of the most demanding missions was conducting ING training. The TF trained two and one-half battalions of ING on the FOB. During one of its most intensive training periods, the TF trained 13 platoons of ING on the FOB while meeting its other security and operational requirements.

Additionally, force protection of the FOB remained challenging. Responsibility for protecting the FOB with two task forces and many US and Iraqi personnel kept the command and staff fully employed and ever vigilant.

HSB (Q-36 and Q-37 in Mosul)*
CRT, 296 BSB
FFT, 296 BSB
LST, 296 BSB
445 CAT, CAARNG
136 THT, 1-14 Cav, 3/2 SBCT (DS)
333 THT, 310 MI Bn (DS)
335 THT, 310 MI Bn (GS) (TACON)
A Battery
B Battery
C/52 IN (9 ATGMs and 1 Fire Support Stryker)
A/131 FA TAB (-) TXARNG (in Mosul with 3 x Q-36)
C/276 EN (-) VAARNG (DS) (Corps Wheeled EN Battalion MTOE)
1/266 OD Company, WIARNG (OPCON)
102d ING Battalion (OPCON)
107th ING Battalion (OPCON)

*C/1-37 FA, also in Mosul, was OPCON to 3/2 SBCT to secure FOB Freedom.

Legend:
OD = Ordnance Corps
TAB = Target Acquisition Battery
TXARNG = Texas Army National Guard
WIARNG = Wisconsin Army National Guard

Figure 4: TF 1-37 FA—Qayarrah. The task force's key tasks were to secure the AO; command and control FOB Qayarrah West Airbase; train ING; secure the brigade retransmission site, ASP Jaguar and a mass grave site in the vicinity of Al Hadr; integrate ING into combined operations; and be prepared to provide fires.

Relief in Place. In October 2004, 2-8 FA, 1/25 SBCT, replaced 1-37 FA. 2-8 FA conducted a unique mission-for-mission exchange. It deployed with only its personnel and individual weapons and gear and fell in on 1-37 FA's equipment.

Before 2-8 FA deployed, we established communications with the battalion and transferred TTPs and knowledge of the battlespace and missions. This allowed 2-8 FA to prepare with a greater focus back at Fort Lewis. The battalion arrived aggressive, confident and fit—the torch was passed to another outstanding FA battalion.

On 3 November 2004, 1-37 FA returned to Fort Lewis with all its Soldiers. With the battalion's capabilities fully realized, the brigade conducted a final after-action review (AAR) and reviewed the battalion's METL. 1-37 FA's METL, including maneuver tasks, was confirmed and approved (see Figure 5 on Page 14).

Lessons Learned. I learned several lessons that may be helpful for other units deploying to Iraq.

Force Protection. This is everyone's business and needs the leaders' constant attention. There is always some way to improve the protection or safety of Soldiers—where they eat and sleep or how they operate.

One goal of 1-37 FA was to place Soldiers where they could sleep relatively assured of safety. As I learned from a fellow battalion commander, sleep is a "weapon" and is key to better performance. Our goal was to put Soldiers under concrete, whenever possible, or under sand bags, often sacrificing comfort for protection.

The availability of funds and other resources allowed for creative force protection measures. Concrete and steel obtained locally often provided extra protection to positions and vehicles.

The leadership must inspect daily and maintain discipline to continuously improve the level of force protection. The unit must follow through with vigilance and never lose momentum by giving in to a "good enough" attitude.

The chain of command must challenge Soldiers to offer their ideas for force protection; many of our best ideas came from young Soldiers who thought of methods to improve force protection.

Effects Coordinator (ECOORD) versus TF Commander. During operations in Iraq, balancing the responsibilities as the ECOORD and TF commander was challenging. I quickly learned that at the pace of operations on that distributed battlefield, the deputy effects coordinator (DECOORD) could handle the mission with limited oversight the majority of the time.

This was a dramatic change from what I experienced at the training centers. However, I believe that, at the lower end of the spectrum, the FA commander can make more of a difference as a TF commander than by serving the *same time* only as the ECOORD.

Every Move is a Combat Operation. You must plan, resource and battle drill every move to ensure the safety of everyone in the convoy. Pre-combat checks/pre-combat inspections (PCCs/PCIs) are a *must*. Criteria for success must be met before the move. Soldiers must be empowered to identify deficiencies without the fear of repercus-

sions to maintain a positive program of success.

Cultural Awareness and Understanding. 1-37 FA's understanding of the Iraqi culture never got very deep—despite working closely with Iraqis by mentoring mayors and city councils and training and joint operations with the ING. No unit can spend the amount of time it takes to really understand the complex and unique peoples in its AO (tribes, religion, etc.).

To improve understanding, units should employ interpreters not only during operations, but also as language teachers in classes. The focus should be on key words and phrases Soldiers are likely to encounter or will require during operations. Often we relied solely on interpreters and assumed the additional risk of our Soldiers not truly understanding. Additionally, interpreters can be outstanding instructors of the culture in a given AO or of Iraqis in general.

Weapons Proficiency. Confidence in weapons is a *must*. Soldiers must be proficient in their weapons and capable on all other weapons. This is gained though ranges, close quarters marksmanship (CQM) and hands-on operations. Weapons proficiency and proper clearing procedures prevent accidental discharges and minimize risk to the force.

ING Training and Integration. Working closely with Iraqi security forces is challenging and takes patience and flexibility. As relationships develop, trust is best built through the actions of both US forces and the Iraqis.

It is easy for those working closely with Iraqis to become frustrated and tired over time due to the language barrier, the levels of competence of the Iraqis in their new roles and missions, and cultural differences. Those who train or liaise with Iraqis must be rotated on a schedule that does not sacrifice experience but preserves morale.

Communications with Like Units. 1-37 FA was able to communicate with units in Iraq before training for deployment. The digital age allows units to "talk" to each other as never before.

Much of the success of the RIP between 1-37 FA and 2-8 FA was due to open communications *at all levels* between the units well before the RIP. Additionally, 2-8 FA had a unique opportunity with support at Fort Lewis to reach into our Army battle command system (ABCS) and see our missions, products, orders, etc. The battalion had the information to plan in detail as well as train for the missions with a greater fidelity.

Although not all units will have this capability, it's essential to use whatever means are available to obtain the real-time information on enemy TTPs, conditions in specific AOs or anything else pertinent to operations.

Radar Management. Although operating as a maneuver unit, TF 1-37 FA consistently managed more than its organic radars (a Q-36 and Q-37) once it moved to Mosul. The radar deployment orders (RDOs) of the six radars in our brigade—four Q-36, one Q-37 and one lightweight countermortar radar (LWCMR)—were developed by the brigade's joint fires and effects cell (JFEC) and the DECOORD.

However, because the TAB and organic radars are under the control of the FA battalion commander, he must ensure a level of oversight and analysis so the counterfire intelligence performs at an adequate level. To ensure the priority areas were covered, we established a detailed plan for conducting maintenance during the periods when the enemy did not routinely fire. Trend analysis also was key to orienting the right radars at the right time as well as allowing the brigade to focus on specific areas and times to patrol. Finally, a radar "play book" was developed with plans to execute if any one or more radars went down due to attacks or unexpected repair requirements.

Maneuver Lessons. These are lessons I learned while serving as a maneuver commander.

Tactical Patience—Allowing Subordinates to Develop the Situation. This was challenging and only came with experience while conducting many operations. The commander must fight the urge for constant updates during challenging missions. This will allow the men to conduct their tasks with complete focus. When things don't go as planned, reports come fast and steady.

Fewer but better reports come when the commander asks the right questions and allows subordinates to regain situational awareness rather than asking for many reports that are distracting from the most important thing at that moment: the mission.

Rehearsals. All operations must be rehearsed—from convoys to cordon and searches. The rehearsal identifies deficiencies and allows leaders to make decisions that mitigate risks at the points of friction or danger. Battle drills for movement, recovery, hasty recovery, contact—all must be rehearsed. Units must maintain a program or SOP regarding rehearsals to ensure complacency is defeated and Soldiers are proficient at the key tasks during an operation.

Mission Statement:
1-37 FA deploys rapidly by land, air or sea to a designated AOR and provides full-spectrum fires in support of the *Arrowhead* BCT. Be prepared to conduct area security operations as part of a brigade economy-of-force mission.

METL:

Battalion	Howitzer Battery	HSB
• Deploy.	• Deploy.	• Deploy.
• Conduct counterfire operations.	• Provide indirect fires.	• Perform CSS operations.
• Conduct delivery of fires.	• Conduct tactical moves.	• Conduct tactical moves.
• Conduct CSS operations.	• Defend battery area and materials.	• Defend battery areas and materials.
• Execute battle command.	• Be prepared to establish TCPs.[2]	• Prepare for combat.
• Be prepared to conduct area security.[1]	• Be prepared to conduct cordon and search.[2]	• Be prepared to establish TCPs.[2]

Notes:
1. To control terrain—does not imply "seize" terrain. 2. Based on experience in Iraq.

Legend:
BCT = Brigade Combat Team **TCPs** = Traffic Control Points

Figure 5: 1-37 FA Mission Statement and METL Approved January 2005

It is the detailed rehearsal for offensive operations that allows Soldiers to visualize their physical positioning and actions in relationship to the other Soldiers of the team, squad or platoon. This builds Soldiers' confidence in the plan, enables them to understand their role in accomplishing the mission and empowers them to make smart decisions at their levels.

Risk, Safety and Leadership. There are times when a leader needs to "go with his hunch" and stop actions when the conditions are not set to mitigate risk. Operations that a unit plans typically are set to be executed on that unit's planning timeline. Rather than just adhere to a timeline, commanders have to recommend and enforce abort criteria for operations. Leaders must cancel or delay any operation that does not require an immediate response when the conditions have not been met for successful and safe execution.

Positioning on the Battlefield. I grew to realize the importance of positioning. This is not a new lesson for seasoned maneuver commanders; however, it was for me. The key was my position needed to be where I best could influence operations. There were times when my position forward with the unit provided more to the fight where I could better understand the situation and apply additional resources, if required.

When multiple and dispersed operations were taking place, as much as I did not like it, the best location for me proved to be in the tactical operations center (TOC) where communications were the best. This allowed me to balance the needs of several units with the added power of the staff.

Task Organization—Below the Platoon Level. A key lesson in task organization was simply overcoming the units'/sections' resistance to mixing and matching their capabilities. We do not task organize very often in the Field Artillery—much less below the platoon level. However, when conducting the missions as a task force, our reorganization often occurred below the platoon level. This resulted in more flexible and talented organizations for specific missions. When task organizing at that level, we needed more time for training and rehearsals to build the team.

Planning for All Assets Available. The commander and staff had to learn to employ and synchronize multiple brigade assets in support of our own operations. The use of fire support in all forms (USAF, Army Aviation, howitzers and mortars) won't be lost on any commander who has served as an FSO. However, the inclusion of tactical human intelligence (HUMINT) teams (THTs) and unmanned aerial vehicles (UAVs) and the positioning of adjacent units all provided added capabilities and must be included in the staff's mission analysis.

C/52 IN patrolling in the snow in Mosul.

We can do it! The greatest lesson I learned was that maneuver skills are learned skills. Redlegs are fully capable of executing Infantry tasks. We are only limited by our time to train, the size of our organizations and the equipment currently issued.

As currently trained, equipped and manned, I am convinced that Artillery battalions are not the choice to seize terrain and that when terrain must be seized, nothing does it better than the combined arms team led by maneuver. However, once that terrain is seized and the larger battles are won, there remains a myriad of maneuver skills required to maintain security. This has been the case in Iraq, and Artillery units have been instrumental in maintaining that security.

Final Thoughts. Serving as a maneuver battalion in Iraq was demanding for 1-37 FA. It wasn't easy on the leadership in terms of experience, and it wasn't easy for the Soldiers in terms of initial training. 1-37 FA was successful in Iraq due to the discipline and flexibility of its Soldiers and leaders at every level. Its ability to grow into missions while in contact proved this. As great as the learning curve was for the unit, its accomplishments were just as great.

Any Soldier or unit in the US Army can accomplish any mission or task with adequate training and resourcing. With foresight, flexibility and a "can-do" mindset, any Artillery unit can achieve outstanding results with any mission in Iraq.

Lieutenant Colonel Steven A. Sliwa, until recently, commanded the 1st Battalion, 37th Field Artillery (1-37 FA), 3d Stryker Brigade Combat Team (SBCT), 2d Infantry Division, at Fort Lewis, Washington. He commanded 1-37 FA during the process of certifying the Army's first SBCT as well as during its yearlong deployment to Iraq. Currently, he is the Assistant G3 for I Corps at Fort Lewis. In his previous assignment, he was a Strategic Planner in the Directorate for Strategy and Policy, J5, Joint Staff, at the Pentagon. Among other assignments, he was the Brigade Fire Support Officer (FSO) for 1st Brigade and Executive Officer (XO) of 3-6 FA, both in the 10th Mountain Division (Light Infantry) at Fort Drum, New York. He participated in Operation Desert Storm in the Gulf with the 3d Armored Division and in Operation Uphold Democracy in Haiti with the 25th Infantry Division (Light). He has been selected as a National Security Fellow at the JFK School of Government at Harvard University.

Photo courtesy of Fidelity Technologies Corporation

Call-for-Fire Trainer and the Joint Fires Observer

By Colonel
Stephen D. Mitchell

C45, this is C71, SEAD [suppression of enemy air defenses] Polar, over. Suppression, Direction 1820, Distance 3000; Mark, Direction 1860, Distance 3500, over. SA-6 dug-in, Q, illumination mark continuous.

CAS [close air support] TOT [time-on-target] 1011, over.

Viper 7, this is C71; are you prepared to copy 9-line?

This commo cut was captured during training in the Army's newest and most state-of-the-art simulator, the call-for-fire trainer (CFFT). The CFFT is a leap ahead of the old training set fire observation (TSFO) and guard unit armory device, full-crew interactive simulation trainer (GUARDFIST). Instead of using pictures, it uses high-resolution terrain databases accurate to better than one meter on the ground.

The CFFT trains all the required tasks of the joint fires observer (JFO), including FA, mortar, naval gunfire and CAS. Units can tailor it to train against a variety of opposing forces (OPFORs), from "technicals" in pick-up trucks to a massive attack that one might see in the mountains of Korea. Observers can pick their observation points (OPs) to best cover their zones or sectors from anywhere in the terrain database.

This gives the field a cutting-edge trainer to teach and maintain observer skills throughout the force and, because of the pressing need, fielding has been pushed to the right. In fact, Fort Sill teamed with the Program Executive Office for Simulation, Training and Instrumentation (PEO-STRI) to push this program through, from writing the requirements document to first production models, in less than two years—a tremendous success story.

The first CFFT pre-production models are on the ground now and being used in training at Fort Sill for the Military Occupational Specialty (MOS) 13F Fire Support Specialist NCO Education System (NCOES) courses, the captain's career course (CCC) and officer basic course (OBC) plus the Special Operations Command (SOCOM) Special Operations Terminal Attack Controller (SOTAC) course. Forty percent of SOTAC training is conducted on the CFFT simulator.

CFFT represents a major advance in capabilities, technological fidelity and interoperability in the joint training arena. As Operations Iraq Freedom (OIF) and Enduring Freedom (OEF) continue to shape defense requirements, the Department of the Army recognized the CFFT as a Tier 0 (must fund) Army priority.

CFFT Capabilities. The CFFT incorporates the Army's new one semi-automated force (OneSAF) constructive simulation as a force generation tool capable of creating any type of friendly, enemy or neutral force the commander or instructor desires. The SAF mission profiles can be saved as scenario files to be used repeatedly as well as modified to suit any number of operational and training requirements. CAS, naval gunfire and mortars are just some of the CFFT's joint fires training; it is flexible enough to create SAF aircraft as well as combat surface vessels.

The range of current and programmed weapons and munitions establishes CFFT as a major player in training joint fires. It incorporates the recognition of combat vehicles (ROC-V), enhancing the JFO's ability to identify vehicles in combat. The high level of fidelity in munitions effects and accurate simulation are great improvements over former observed fire training systems.

Use of simulated military equipment, such as the lightweight laser designator rangefinder (LLDR), increases the student's ability to replicate tasks seldom allowed in a field environment. Other simulated military equipment under development include the Viper laser range-finding binoculars and the mini eye-safe laser infrared observation set (MELIOS).

The flexibility in simulated military equipment allows a unit to tailor its CFFT to reflect its table of organization and equipment (TOE).

The CFFT has three basic configurations: 1:4, 1:12 and 1:30. The first number represents the number of instructors required, and the second represents the number of Soldier/student stations. The 1:4 and 1:12 systems are fully deployable and take about 20 minutes for an experienced operator to set up in any classroom.

The Windows-based CFFT supports open architecture protocols and virtually unlimited connectivity to other training and command, control, communications, computers and intelligence (C^4I) systems. Specifically, CFFT is interoperable with other training systems such as the Soldier-combined arms tactical trainer (S-CATT), virtual emergency response training system (VERTS), close combat tactical trainer (CCTT), unmanned aerial vehicle (UAV) simulator, digital battle staff trainer (DBST) and other distributive interactive simulation (DIS) and high-level architecture (HLA) compliant systems.

We recently had one connected to an engagement skills trainer 2000 (EST 2000) where the observer in the CFFT was supporting a direct fire engagement. The effects of the fires called in the CFFT were seen in the EST 2000 and vice versa. This connectivity will give trainers a tool that is only limited by their imagination.

Another exciting capability is the requirement for each CFFT to be shipped with three-plus-one terrain databases. Joint Forces Command's experiment Joint Urban Warrior has demonstrated the opportunities for simulation to lead the way in training urban operations in a joint and combined environment. CFFT is positioned to provide the tools needed to train joint fires in the urban fight.

The Night Vision and Electronic Sensors Directorate, at Fort Belvoir, Virginia, currently is developing the Baghdad terrain database. This effort will give the instructor a realistic urban environment using a high-fidelity geospecific building topography.

Terrain databases are being generated to accommodate a wide range of operational and training requirements, including open terrain, urban terrain and multiple canopy terrain. The standard three terrain databases shipped with each CFFT will be the National Training Center (NTC) for that open, rolling desert training environment; Fort Sill, for some open and compartmented terrain; and Baghdad.

The "plus-one" terrain database will be defined by the unit's location. For instance, units in Korea will want a terrain database of the area they are most likely to fight in. This capability will give units the ability to do virtual mission rehearsals on virtual terrain they will later train or fight on.

The CFFT program is also leveraging another simulation that was initially designed for SOCOM to incorporate future capabilities—the Special Operations Forces (SOF) air-ground interface simulator (SAGIS).

The Field Artillery School and PEO-STRI are working to leverage technologies in the two simulations to achieve the best of each system. The inclusion of voice recognition and non-voice digital input capabilities will continue to increase CFFT's ability to accurately train the JFO.

Fort Sill and the University of Southern California Institute of Creative Technology (ICT) joined in an initiative to develop the Joint Fires and Effect Trainer System (JFETS). Fort Sill and ICT have incorporated movie industry special effects into JFETS and created an immersive training environment. This year the beta version CFFT was integrated into the open terrain module (OTM) of JFETS.

FY05 JFETS initiatives include developing a fully immersive state-of-the-art CAS trainer. Once complete, the CFFT will be the Army's only system capable of training the full suite of CAS missions.

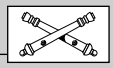
CFFT Pre-Pro Models and Fielding. The CFFT is not a future system. The JFETS and SOTAC courses are using pre-production CFFTs, and the Project Manager for Ground Combat Tactical Trainers (PM GCTT) currently is fielding an additional 13 pre-production CFFTs to selected Army Reserve and National Guard (ARNG) units. After a successful Milestone C decision in April for full-rate production, the PM plans to begin fielding the production CFFT in late Third Quarter FY05.

Units that need the trainer now and can't wait for the Army to field them can order from a limited number of pre-production models. To order, units go to the Fires Knowledge Network on Army Knowledge Online (AKO) and hit the link for the CFFT. There they will find instructions on how to order a pre-production model.

There are advantages in buying a CFFT over some other system. It is warranted by the Army and any repairs or maintenance are paid for. Also, with software drops, units will get all the updates of the production modules as they are developed.

Finally, units will get a trainer designed to meet the rigid requirements developed by the Field Artillery School, which also provides scenarios, training support packages (TSPs) and new equipment training (NET) to get unit trainers up and running.

The CFFT is the training simulator for the FA's future that the school will continue to develop to train all JFOs for joint interdependency.



Colonel Stephen D. Mitchell is the Director of the Training and Doctrine Directorate (DOTD) and G3 of the Field Artillery Center and Fort Sill, Oklahoma. He was the Senior Fire Support Observer/Controller (O/C) at the Combat Maneuver Training Center (CMTC), Hohenfels, Germany, and a Reinforcing Artillery Battalion Trainer and S3 Operations Trainer at the National Training Center (NTC), Fort Irwin, California. He commanded the 2d Battalion, 82d Field Artillery, (2-82 FA), 1st Cavalry Division, Fort Hood, Texas, and C/2-9 FA (Pershing), 56th FA Command in Germany. Among other assignments, he was the Division Artillery Executive Officer and Deputy Fire Support Coordinator in the 2d Armored Division, also at Fort Hood. He holds two master's degrees, including a Master of Strategic Studies from the Army War College at Carlisle Barracks, Pennsylvania

1st ID in Iraq

The New JFEC and Targeting

By Colonel Richard C. Longo, Majors Marty P. Chavers, Steven W. Nettleton and Michael D. Goains, and Captain Jonathan G. Bleakley

In preparation for Operation Iraqi Freedom (OIF) II, the leadership of Task Force (TF) Danger, 1st Infantry Division (1st ID), realized it needed to transform its conventional targeting team. Many of the participants in the joint fires and effects cell (JFEC) normally train for and operate in high-intensity conflict conditions as part of a deep operations coordination cell (DOCC), planning 24, 48 and 72 hours out. The DOCC had to evolve into a counterinsurgency-focused element that concentrated on effects-based operations (EBO) planning and execution up to several months out.

The division applied similar procedures during several deployments to the Balkans. Many of the problems encountered in Iraq are similar to those in the Balkans, but the complexity of those problems and the violence resulting from them were clearly more intense and presented the 1st ID new challenges. The combination of the sheer size of the battlespace, multiple ethnic fault lines, severe economic ruin and complexity of full-spectrum operations against a violent insurgent required a different approach.

Considering the problems and seeking to solve them within the constructs of ends, ways and means led to a dynamic and adaptable process that enabled us to mass combat power and many combat enablers simultaneously. The 1st ID transformed the DOCC into a JFEC that synchronized lethal and nonlethal fires, projects and funding to shape the division's operating environment. In the next few paragraphs, we provide an overview of the JFEC and its battle rhythm, processes and products and of the methods employed for measuring success.

The JFEC and Its Battle Rhythm. Comprised of primary, special and personal staff members, the JFEC serves as a bridge between current operations and future plans, focusing one month out. See Figure 1. JFEC operations are overseen by the division artillery (Div Arty) commander/fire support coordinator (FSCOORD) and executed with the combined efforts of the deputy FSCOORD, division information operations (IO) officer and the division targeting officer.

The division targeting officer serves as the key enabler of the day-to-day operations of the JFEC. He gathers data from the major subordinate commands (MSCs), writes initial draft orders resulting from the work of the JFEC and conducts all the legwork to ensure that information continually flows from lower to higher echelons.

Three key venues comprise the deliberate process that serves to coordinate the JFEC's actions: the Working Group, the Nomination Board briefing and the Division Commander/Commanding General's (CG's) Update. The JFEC Working Group meets three times weekly to conduct detailed analysis and develop products. At mid-month, the JFEC briefs the CG at the Nomination Board, a presentation of the proposed prioritization of effects for the next 30 to 45 days.

The results are published in a division fragmentary order (FRAGO), titled the effects tasking order (ETO). The ETO incorporates themes and messages that support taskings to staff and subordinate units. It is based on input from all involved and staffed through the G3 and chief of staff. The CG edits it, ensuring his intent is met.

The CG's Update occurs at the beginning of the month and focuses on assessing the previous month's effects.

Additionally, the JFEC may convene a crisis action team at unscheduled times in response to certain critical situations to help synchronize a specific current operation. The team was instrumental in the division's response to the complex situation in Samarra during the August and September 2004 timeframe, integrating lethal and nonlethal effects as well as funding and projects supporting full-spectrum operations in that city.

In addition to our internal meetings, there are three primary forums by which the 1st ID leadership garners input and conveys important messages to the Iraqis: the biweekly Iraqi Senior Advisory Council, the monthly Sheiks' Council and the monthly Governors' Conference. The JFEC is responsible for these forums and ensures the themes and messages articulated at them are nested with those published in the ETO. The discussions that occur at these forums enable the CG to increase his understanding of the cultural, security, economic and political environment across the area of operations (AO) and address the division's themes and messages.

The Iraqi Senior Advisory Council is comprised of sheiks, imams, businessmen, academicians, government leaders and former military commanders. These participants represent all ethnicities from each of the four provinces in the AO. The CG briefs them on issues currently needing attention; the successes the division has achieved in specific areas; and the progress on efforts, such as preparations for the upcoming elections. The Iraqi Senior Advisory Council also breaks down into economic, political, cultural and security subcommittees to discuss key aspects of the issues at hand in pursuit of useful input from community leaders.

- G3
- G3 Plans
- G2
- PCO
- ALO
- SWO
- G3 Air
- ACE
- SJA
- IO
- PSYOP
- CA
- G4
- G5
- G6
- PMO
- PAO
- FSE
- Chaplain
- POLAD
- LNOs

Legend:

ACE = Analysis Control Element
ALO = Air Liaison Officer
CA = Civil Affairs
FSE = Fire Support Element
IO = Information Operations
LNOs = Liaison Officers
PAO = Public Affairs Office
PCO = Projects Coordination Office
PMO = Provost Marshal's Office
POLAD = Political Advisor
PSYOP = Psychological Operations
SJA = Staff Judge Advocate
SWO = Staff Weather Officer

Figure 1: Roll Call—1st Infantry Division Joint Fires and Effects Cell (JFEC)

The Iraqi Senior Advisory Council enabled the CG and staff to see solutions to complex problems through Iraqi eyes.

The Sheiks Council enables tribal leaders in TF Danger's four provinces to bring to light issues affecting them and their tribal constituents. It is also another chance for the CG to engage them with themes and messages that support the effects outlined in the ETO.

The Governors' Conference brings together provincial governors and brigade combat team (BCT) commanders with the CG and his staff. When assembled, this group works to develop a common understanding of political and military issues in the AO and recommends courses-of-action (COAs) for meeting those needs.

Targeting Transformed. The fundamental targeting process of *decide*, *detect*, *deliver* and *assess* (D^3A) is the foundation of the JFEC. Although doctrine laid the groundwork for developing TF Danger's JFEC, non-doctrinal tactics, techniques and procedures (TTPs) had to be developed and modified to fit the operational environment and promote lethal/nonlethal effects-based targeting.

During the *decide* phase, the CG's

1st ID Commander Major General John R. S. Batiste and Task Force Danger Chief of Staff Colonel Keith Cooper with sheiks representing the tribes in Area of Operations Danger. Ms. Suzanne Inzerillo, US State Department Political Adviser, is on the left, back row.

intent; the MultiNational Corps-Iraq (MNC-I) lines of operations, MNC-I effects; specified tasks; and the prediction of the future operating environment based on the mission, enemy, terrain, troops, time available and civilians (METT-TC) in the AO all are used to develop effects, tasks, resources and measures of effectiveness (MOEs).

The desired effects are then prioritized, becoming the high-payoff effects list (HPEL). See Figure 2 for an example of a HPEL.

Once the HPEL is established, the JFEC wargames critical capabilities and vulnerabilities to determine the optimal assets and resources to *detect* targets and *deliver* the effects. A holistic consideration of all available assets is essential—be it a guided bomb unit-32 (GBU-32), an infantry company conducting cordon and search operations, a civil affairs (CA) team rebuilding a school, a public affairs (PA) team spreading a message to the populace or any combination of these and other methods.

The key to understanding effects-based targeting is an expansion in our task lexicon. Fire supporters and maneuver commanders are very familiar with doctrinal tasks, such as "deny, limit, disrupt and destroy." However, we must now consider the entire joint publication task list (JPTL), paying special attention to IO-centric tasks (influence, inform, degrade, deceive, exploit, etc).

For example, the JFEC may have to develop tasks that support a modification to a populace's behavior or an increase in the operational effectiveness of the Iraqi Security Forces (ISF).

1. The credibility and capability of the Iraqi Security Force (ISF) and Joint Coordination Center (JCC) continue to improve to achieve Iraqi control.
2. Iraqi populace accepts the results of the elections and supports the elected officials.
3. The effects of improvised explosive devices (IEDs), vehicle-borne IEDs (VBIEDs) and spectacular attacks are minimized throughout MultiNational Division-North Central (MND-NC).
4. Perceptions of continuity and enduring commitment are maintained by the Iraqi populace during relief-in-place (RIP) or transfer of authority (TOA) between the divisions.
5. The attacks against infrastructure are reduced in the MND-NC.

Figure 2: October High-Payoff Effects List (HPEL). This is an example of TF Danger's HPEL that guides production of the effects tasking order (ETO).

Often agencies from echelons above division (EAD), such as the Department of State or Special Forces, are approaching the same problems and producing their own solutions. These entities must be incorporated into the team. Ensuring effective employment of nonlethal assets can be just as important as applying lethal combat power.

Effect 1: The credibility and capability of the Iraqi Security Force (ISF) and Joint Coordination Center (JCC) continue to improve to achieve Iraqi control.

Method: Exploit ISF training and operations with media coverage.

Target Category: ISF, JCC & Populace

Unit/Agency	Task	MOEs	Status
Division ISF Cell & PAO	PAO: Inform local and international media about the upcoming Media Day at ISF.	Number of Local and International Media Attendees	Local: 24 US: 12 International: 19
		Number & Type of Local and International Broadcast and Publication Representatives	Radio: 16 Local/4 Int'l TV: 5 Local/9 Int'l Print: 19 Local/8 Int'l Internet: 7 Local/4 Int'l
		Number of Press Releases Supporting ISF Published in the Local Media	24 News Articles Supporting the Credibility of the ISF

Figure 3: Measures of Effectiveness (MOEs). MOEs are gathered from staff and subordinate units and help determine what effects will be tasked in the future.

The weight of decisions, such as those regarding the allocation of funding or exploitation of media assets internal to and separate from the division, cannot be taken lightly.

Incorporating these agencies and factors into the JFEC planning and implementation is vital to ensure unity of effort, coordination and integration throughout the AO.

The *assess* phase is the most difficult and, in this environment, requires an especially high degree of patience. The division frequently engages in long-term effects that take time to observe and measure, possibly months or years.

To quantify the results, the JFEC determines MOEs and measures of performance (MOPs) associated with each task. (See Figure 3 for sample MOEs for a specific task.)

These MOEs and MOPs enable the division to gauge success or failure. MSCs and their liaison officers (LNOs) provide empirical data to help measure success or failure. This is essential in determining what actions are needed to achieve the desired effects: sustained attack by the same means, re-attack using another means or terminate the task if the desired effects were achieved. Additionally, the MOEs and MOPs are the basis for the CG's Updates.

Twelve months of combat have given the 1st ID JFEC vital insight into what it takes to synchronize and deliver effects to support the CG's intent. The 1st ID JFEC has learned to synchronize, integrate and achieve lethal and nonlethal fires and effects, projects and funding that shape the division's operating environment.

The proficiency that has resulted from these months of combat experience must be sustained while at home station to ensure the 1st Infantry Division's readiness for the next operation. At the same time, the key warfighting tasks the DOCC doctrinally accomplishes cannot fall by the wayside.

In OIF II, TF Danger quickly learned that the transition from high-intensity conflict to full-spectrum operations, or vice versa, can occur in a matter of hours. The agility required of units to quickly and effectively make that transition only can come with practice—be it through realistic training or a deployment, such as OIF II.

In working to accomplish its tasks and seeking to improve its organization, the JFEC continues to enable TF Danger to achieve the unity of effort necessary to

gain irreversible momentum toward the safety of and security for the Iraqi people. As our TTPs develop and solidify, the people of Iraq will be the true winners.

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Major (Promotable) Marty P. Chavers is the Deputy Fire Support Coordinator and Chief of the Joint Fires and Effects Cell (JFEC) for the 1st Infantry Division (1st ID) while deployed for OIF II. He also served as the Operations Officer for 1-7 FA, deploying with the battalion as part of the Kosovo Force (KFOR) 4B, and Brigade Fire Support Officer (FSO) for 2d Brigade Combat Team (BCT), both in Germany in the 1st ID. He commanded B/1-319 AFAR, 82d Airborne Division, Fort Bragg, North Carolina.

Major Steven W. Nettleton is the Information Operations Officer in the 1st ID JFEC while deployed for OIF II. He formerly commanded B/2-4 FA, 214th Field Artillery Brigade at Fort Sill. He is a graduate of the Command and General Staff College, Fort Leavenworth, Kansas.

Major Michael D. Goains is the Information Operations (IO) Field Support Unit Commander and IO Targeting Officer for the 1st ID while deployed for OIF II. He also served as the IO Chief for KFOR 3B/4A and IO Targeting Officer for the Combatant Command Field Support Unit in support of Northern Command (NORTHCOM). He commanded D/3-112 AR of the Texas Army National Guard in Stephenville, Texas.

Captain Jonathan G. Bleakley is a Target Analyst in the 1st ID JFEC while deployed for OIF II. He was the Mobile Subscriber Equipment (MSE) Platoon Leader in the 121st Signal Battalion, 1st ID, and Company FSO for 1-18 IN, 1st ID, both in Germany. He holds a Bachelor's Degree in History from Colorado State University.

Iraq's Election Day

A Redleg on Patrol in a Tough Neighborhood

On Iraq's election day, I spent from 0330 until 2230 on the streets in our armored high-mobility multipurpose wheeled vehicle (HMMWV) or at election centers from Tikrit to Baqubah. Baqubah is one of the most dangerous cities that we patrol.

It was great to see all the people voting. There were very few polling sites that Iraqis were afraid to go to—all others were filled to capacity. One polling site in a nicer neighborhood next to a police station had 5,000 voters by 1400.

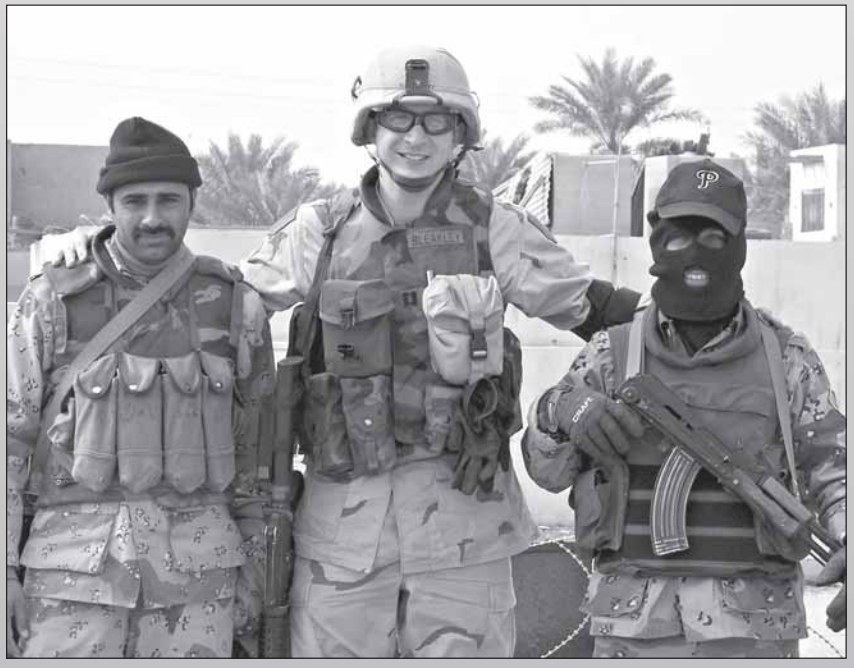
During our patrolling that day, there were some attacks. We discovered three improvised explosive devices (IEDs), heard gunshots all around us and listened to units in and around our sector on the radio fighting it out with small pockets of insurgents. We also heard explosions and were pretty close to a couple of mortar attacks.

But the voters never fled during those attacks. They just stayed to vote—it was really *cool*.

The Iraqi soldiers in the picture with me were very proud of what they were doing. They kept telling me that the people at the polling site they were guarding did not have to worry because "I shoot Ali Baba!" (They call all bad guys and the enemy "Ali Baba.") They were proud to show me their well maintained weapons and proud they were there to help secure their people's vote.

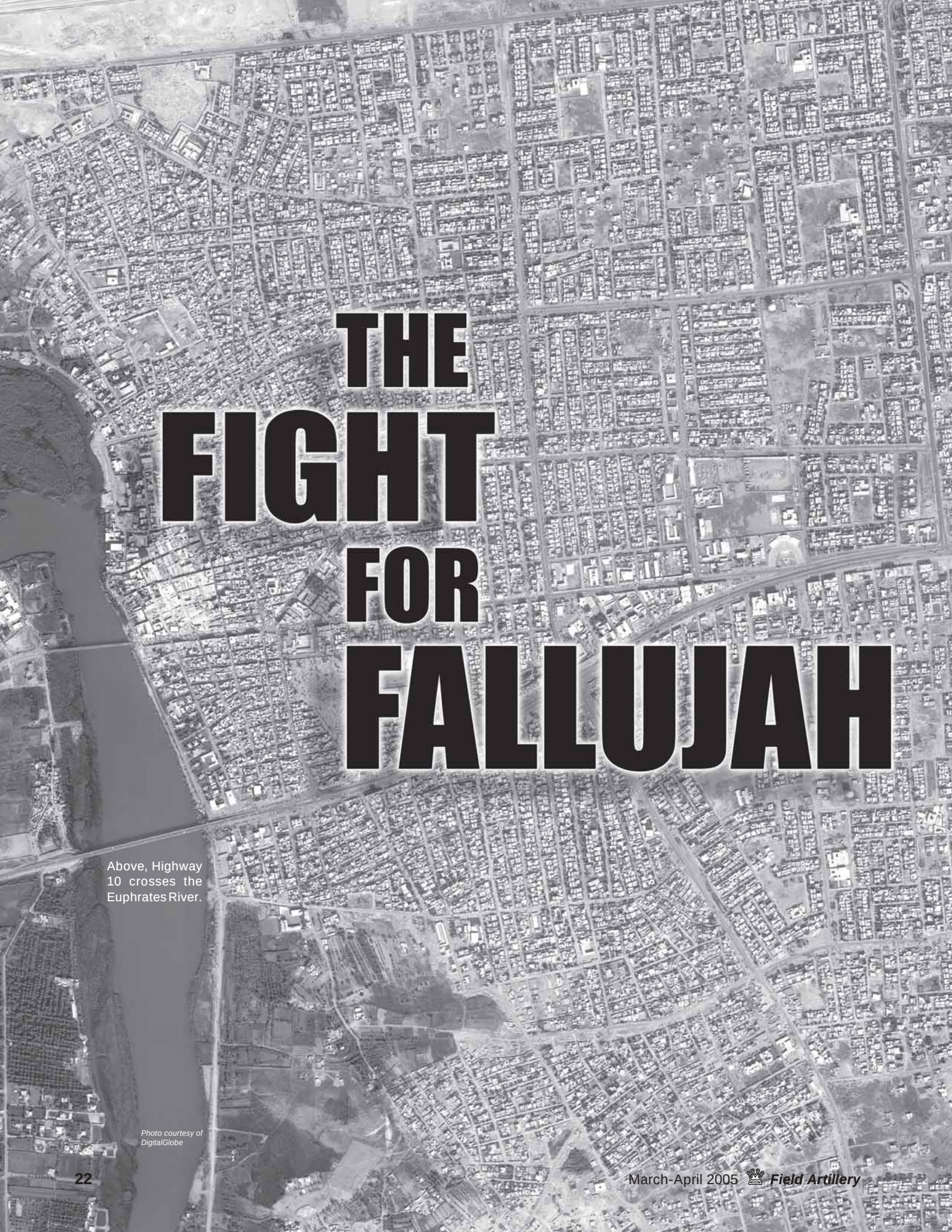
It was a great experience to be out on the streets on election day in one of the most dangerous towns in the 1st Infantry Division's sector and see that the Iraqi people were not intimidated, that they were going to vote, even if they had to go to other neighborhoods to do it. I am proud to have helped make that happen.

CPT Jonathan G. Bleakley
Target Analyst, 1st ID, JFEC
FOB Danger, Tikrit, Iraq



Election Day in Iraq, 30 January 2005. Captain Bleakley stands between two Iraqi soldiers who were in Baqubah with him to guard a polling site. The site was in 1st Battalion, 6th Field Artillery's sector.

THE FIGHT FOR FALLUJAH



Above, Highway 10 crosses the Euphrates River.

Photo courtesy of DigitalGlobe

TF 2-2 IN FSE AAR:
Indirect Fires in the Battle of Fallujah

By Captain James T. Cobb,
First Lieutenant Christopher A. LaCour
and Sergeant First Class William H. Hight

Task Force 2d Battalion, 2d Infantry's (TF 2-2 IN's) fire support element (FSE) operated as a mini-brigade FSE during the Battle of Fallujah. The FSE coordinated the combat effects of Army, Air Force and Marine assets more autonomously than the traditional, doctrinal battalion-level FSE—a model of joint interdependency.

Although the FSE did not have joint personnel assigned to it, it worked closely with the brigade air liaison officer (BALO), who was chopped to TF 2-2 IN, and functioned as a "Joint FSE," if you will.

Ed.

MEMORANDUM FOR RECORD: FSE, TF 2-2 IN, 3d Brigade Combat Team (BCT), 1st ID, Operation Iraqi Freedom (OIF) II, Forward Operating Base (FOB) Normandy, Muqdadiyah, Iraq APO AE 09392 (AETV-BGR-FSE), 1 December 2004.

Subject: After-Action Review (AAR) for the Battle of Fallujah

1. Background and Mission. The Battle of Fallujah was conducted from 8 to 20 November 2004 with the last fire mission on 17 November. The battle was fought by an Army, Marine and Iraqi force of about 15,000 under the I Marine Expeditionary Force (IMEF), sweeping from north to south. The joint and combined force cordoned the city and searched door-to-door, clearing buildings and engaging insurgents in the streets—reputedly the most fierce urban fighting for Marines since the Battle of Hue City in Vietnam in 1968.

Fallujah is roughly 40 kilometers west of Baghdad on the Euphrates River. Its population before the battle was about 250,000 people; however, TF 2-2 IN encountered few civilians in its attack south.

TF 2-2 IN's mission initially was to attack south to Phase Line (PL) Fran (Highway 10) from the northeastern edge of the city to protect our eastern flank and destroy the anti-Iraqi Forces (AIF), keeping the lines of communications open. For the attack, the city was sliced north and south into six areas of responsibility (AORs): TF 2-2 IN on the northeastern slice of the city with TF 1-3 Marines on our western flank followed (east to west) by TF 1-8 Marines, TF 2-7 Cav, TF 3-5 Marines and, finally, TF 3-1 Marines in the northwestern AOR along the Euphrates River.

During the attack, many fragmentary orders (FRAGOs) were issued, which pushed TF 2-2 IN south of PL Fran to the southern edge of the city. TF 2-2 IN's rear tactical operations center (RTOC) and two M109A6 Paladin howitzers were at Camp Fallujah (22 kilometers southwest of Fallujah) from which the Paladins fired during the Battle of Fallujah.

The city is about five kilometers wide and five kilometers deep. It is divided east and west by Highway 10 with residential neighborhoods to the north and the industrial sector in the south. In the most southern sector of the city is a poor neighborhood that was filled with foreign fighters, dubbed the "Martyr's District." This was the sector in which we encountered the heaviest resistance.

2. Enemy Forces. In TF 2-2 IN's AOR, the AIF had emplaced many obstacles and fortified buildings as strongpoints, dug trenches and established fighting positions and bunkers. Additionally, the enemy had rigged buildings and vehicles with explosives.

Along the southeastern portion of the city, the AIF emplaced rockets as remotely controlled direct fire weapons against any Coalition Forces that attempted to attack from the south or east of the city. The enemy also emplaced improvised explosive devices (IEDs) and mines along key routes and at intersections to impede and funnel Coalition Forces' movement. Vast caches of AIF munitions had been positioned throughout the sector for tactical resupply.

3. Friendly Forces. TF 2-2 IN deployed to Camp Fallujah under the operational control (OPCON) of Marine Regimental Combat Team-7 (RCT-7), 1st Marine Division. TF 2-2 IN's task organization consisted of one mechanized infantry company, one armored company, the brigade reconnaissance troop (BRT), one Iraqi Intervention Forces (IIF) Battalion (-), one engineer platoon, two M109A6 Paladins (positioned on Camp Fallujah), four organic 120-mm mortars and two 81-mm mortars. Four Air Force joint terminal attack controllers (JTACs) were attached from the 3d BCT headquarters and sliced out to the maneuver companies with one BALO and an enlisted driver in the task force tactical command post (TAC).

4. Artillery Fires. As part of TF 2-2 IN, the M109A6 Paladins and a platoon fire direction center (FDC) were attached in direct support (DS) to the TF. For most of the fight, this was their only role. Later, after TF 2-2 IN had reached its limit of advance (LOA) at PL Fran, it also was tasked to support RCT-7.

The Paladins were in a position area (PA) in Camp Fallujah adjacent to the Marine Corps and a battery of Paladins from the 1st Cavalry Division, A/3-82 FA, that was attached to the IMEF. This facilitated the FA's

sharing meteorological (Met) data and survey and relieved the platoon of self-security.

a. Organic to the TF. As an organic part of the TF, the howitzers provided accurate, timely fires throughout the fight, delivering 925 rounds, mostly in danger-close fires. As dedicated assets to the TF, Paladin fires were greatly expedited in a 360-degree fight with fluid targets and a rapidly advancing maneuver force. Fire missions took less than two minutes from the initial call-for-fire (CFF) to rounds down range.

b. Responsibilities of TF FSE. The TF FSE assumed responsibility for coordinating with the TF 2-2 IN S4 for Class V resupply, positioning the platoon and selecting shell-fuze combinations. The TF FSE cleared fires at the TAC along with the TF battle captain or S3. Clearance of fires was executed by demanding accurate company frontline traces and forward observer (FO) locations at regular intervals and battle tracking in detail.

c. Role of the Artillery. The artillery was used in doctrinal roles, such as screening the initial point of penetration, preparatory fires, close fire support and disruptive deep fires, as well as in non-doctrinal roles, such as clearing routes of IEDs and breeching minefields.

Using Paladins directly attached to the TF gave us a tremendous advantage in the fight. Our tactics, techniques and procedures (TTP) were effective and lethal and gave maneuver TFs greater flexibility, firepower and mobility.

The overall performance was outstanding. By using FOs and accurate intelligence-driven targeting, the artillery was a driving force in the TF's ability to attack through a large city with minimum casualties in six days.

d. Massing Fires. The only drawback was our inability to mass fires on targets due to having only two guns. While we did have general support reinforcing (GSR) assets, they were slow, cumbersome and more difficult to coordinate with than our organic systems. Trust was also an issue as the vast majority of our fires were danger-close, and we did not know the proficiency level of the supporting guns.

While it did not impact our operations overall, at times the physical and psychological effects of massed artillery fires were the preferred effects. We could use our 120-mm mortars when we wanted to mass fires, but additional 155-mm howitzers would have been more effective.

Photo by SPC Brandi Marshall, 55th Signal, Combat Camera

SPC Deretinald Batiste, Task Force 2d Battalion, 2d Infantry (TF 2-2 IN), looks for snipers in Fallujah during Operation Al Fajr on 11 November 2004.

5. Mortars. The Thunder Mortar Platoon that is organic to 2-2 IN proved to be the equal of the artillery in this fight in terms of accuracy and responsiveness and was an integral part of the indirect fires used.

When provided the five requirements for accurate predicted fires, mortars were every bit as accurate and deadly as artillery. The firepower of the 120-mm munitions allowed us to respond quickly with overwhelming firepower when needed. During the course of the battle, mortars fired 942 rounds of timely, accurate fires.

a. Mortar Challenges. Our mortar platoon received two M252 81-mm mortars before deploying to the Fallujah AOR. These were useful indirect fire weapons when close fires were required. The only drawback was they had no sights. To use them, we had to take sights from the 120-mm tubes and use the sights with the 81-mm mortars, taking two 120-mm tubes out of the fight.

The mortars' high angle of fire was preferable for military operations in urban terrain (MOUT), but there were times when the mortars' maximum ordinate (MAXORD) exceeded the close air support (CAS) ceiling, limiting mortar fires.

b. Platoon Security. The mortar platoon operated outside of Camp Fallujah at various firing points and had to pull self-security. It was manned to do so with no degradation of fires. The platoon received enemy indirect fires frequently during the fight and was forced to displace. But due to superior training and good maneuverability, it quickly displaced, reset and resumed operations.

6. Danger-Close Fires. Danger-close missions were the rule, not the exception. 2/A/1-6 FA, our Paladin platoon, and Thunder Base, our 120-mm mortar platoon, quickly earned our confidence in their abilities to deliver timely and, more importantly, accurate fires. We routinely had 155-mm and 120-mm fires within 200 meters of friendly forces. Less frequently, 81-mm mortars fired within 100 meters.

a. Walking Fires In. We could deliver fires in various ways. The nature of MOUT actually helped us mitigate the risk of danger-close missions because the houses and structures served as buffers for effects between friendly forces and the target. The most widely used method when bringing fires in was to "walk" the fires in close, using adjustments sent from an observer. Before going into the fire-for-effect (FFE) phase, friendly companies about to receive danger-close fires were alerted and given time to button up or take cover.

b. Danger-Close Redefined. Per doctrine, the smallest munitions were used closest to the frontline traces of the maneuver element and larger munitions at greater distances. Although this technique was used, rarely were any fires outside of the doctrinal danger-close 600 meters. That was the "deep fight" in this environment, and to have considered it as danger-close and followed all of the existing procedures for adjustment would have decreased the effectiveness of indirect fires.

7. FOs. The FOs played a key role in this fight. We placed a fire support team (FIST) with A/2-2 IN, an FO with the BRT and a fire support officer (FSO) with A/2-63 AR. The FIST with A/2-2 IN included a sergeant (promotable) as the FSO, a private first class as radiotelephone operator (RTO) and a sergeant in two of the three platoons. One

of our team chiefs, a sergeant who was an experienced FO, became the BRT FO. We did not have the manning to deploy full FISTs but compensated by deploying leaders where they were most effective; the FSE platoon was at 50 percent strength.

a. BRT FO Positioning and Reconnoitering. A/2-2 and A/2-63 were deployed in the city for most of the fight with the BRT screening to the east. Due to the BRT's position outside the city, the BRT FO Sergeant Raymond Sapp had excellent observation from dominant terrain and was decisive in the early fight. He was in position very early before the attack. This was excellent TTP that allowed us to adjust the preplanned smoke fires for breeching operations and destroy enemy observation posts (OPs).

As any combat training center (CTC) fight tells us, he who wins the reconnaissance fight will do well. Sergeant Sapp could destroy enemy OPs early and refine target locations as well as confirm or deny that targets we had planned were viable, such as AIF targets or buildings that did not appear to have been recently inhabited. His location with the BRT outside the city looking in enabled him to see the entire battlefield and service targets throughout.

He used the BRT's long-range advanced scout surveillance system (LRAS^3), an excellent piece of equipment that allowed him to accurately locate targets, day or night, with 10-digit grids. LRAS^3 is superior to the ground/vehicular laser locator designator (G/VLLD) in both optics and target location, has night-vision optics and can be mounted on vehicles. If scout and BRT elements have this equipment, fire supporters also should have it.

b. City FOs Kept Moving. The other observers were not as fortunate during the early phases of the fight because they were down in the city and could not readily occupy OPs on dominant terrain. The platoons that included FOs could not afford the time or manpower to establish an OP while they were conducting the attack.

However, during halts or while the platoons occupied strongpoints, the observers established OPs and destroyed targets. The platoon FOs came into play mainly before the task force crossed the line of departure (LD) when they could occupy OPs on rooftops and adjust preparatory fires. Sergeant Randall Laird was very effective at adjusting rounds onto specific houses and destroying them before we crossed the LD.

c. FO Vehicles. The FOs had to ride in the back of Bradley fighting vehicles (BFVs) or M113s to move around the battlefield, degrading both their communications and ability to observe fires. The TF FSO chose not to bring our two FIST vehicles (FISTVs) to the fight for the following reasons: they are mechanically unreliable; we could not man them, given our personnel strength; and they cannot stay abreast of maneuver forces in Bradleys.

Instead we had M1114 up-armored high-mobility multipurpose wheeled vehicles (HMMWVs) with all related equipment in them although they often were left in the combat trains with the FSO's riding in the company commander's Bradley.

We could have used the new Bradley fire support team vehicles (BFISTVs) with the personnel to man them.

d. Attached Companies with No FISTs. One of the biggest issues for FOs and manning was attached companies from other battalions that did not bring their FIST personnel. A/2-63 AR brought only one second lieutenant for fire support—no other FISTers. This severely degraded its ability to use fires during the battle, especially when its FSO was wounded in action (WIA).

A company attached as part of a TF must bring its entire FIST, particularly in a MOUT fight. If not, the ability to support that company with fires is extremely difficult.

8. Other Equipment. Before deploying to Fallujah, we made deliberate choices about what equipment to bring and what to leave behind, and there was equipment we should have had but did not have.

a. Fire Support Gear. The FOs had single-channel ground and airborne radio systems (SINCGARS) manpacks, binos, a compass, Viper-2 night-vision goggles and precision lightweight global positioning system receivers (PLGRs). Communications were adequate. They were degraded when moving, but once OPs were established, they worked well.

The Viper-2 is an excellent tool for FOs. In conjunction with the PLGR, it reliably provided accurate target location.

The Blue Force Tracker was a good tool to use at the TF FSE. It provided a good picture of forces on the battlefield, but could not give friendly unit locations consistently enough to clear fires. It is useful for targeting when imagery is loaded.

The flash, immediate, priority and routing (FIPR) messaging function of Blue Force Tracker was a good tool we did not use fully. It could have been very effective in communicating and passing fire support products from TOC to TAC and vise-versa.

b. Joint Surveillance and Target Attack Radar System (JSTARS). We used JSTARS as a targeting tool. The assistant FSO and S2 collected JSTARS data at the TOC and passed it to us as targeting data to be serviced with indirect fires.

c. Advanced FA Tactical Data System (AFATDS). We did not have AFATDS

Photo by SPC Brandi Marshall, 55th Signal, Combat Camera

Soldiers assigned to to A/2-2 IN clear the upstairs of a house in Fallujah on 11 November 2004.

in the FSE, although 2/A/1-6 FA's platoon operations center (POC) did. The battalion-level FSE has only one AFATDS, and it was at FOB Normandy to support counterstrike operations.

We need two AFATDS at the task force level. Twice we've had to execute split operations and leave the AFATDS behind (Najaf, April 2004).

Fires were controlled at the TAC. With the vehicle available, we could not have used AFATDS, although with a BFIST, we would have been able to.

USMC photo by Lcpl Thomas D. Hudzinski, 1st Mar Div

A precision air strike takes out an insurgent stronghold as Coalition Forces move forward through Fallujah during Operation Al Fajr.

We did not use the lightweight forward entry device (LFED); it was too time-consuming to input targets of opportunity, and there was no AFATDS at the battalion FSE.

9. Munitions. The munitions we brought to this fight were 155-mm high-explosive (HE) M107 (short-range) and M795 (long-range) rounds, illumination and white phosphorous (WP, M110 and M825), with point-detonating (PD), delay, time and variable-time (VT) fuzes. For the 120-mm mortars, we had HE, illumination and WP with PD, delay and proximity fuzes. We also carried 81-mm HE with the same fuzes.

a. Range of Munitions. The munitions at our disposal gave us excellent flexibility. The 81-mm munitions allowed us to deliver extremely close fires to friendly forces while we used larger caliber munitions to engage and destroy heavily fortified houses and bunkers. The standard table of organization and equipment (TOE) for a mechanized battalion does not include 81-mm mortars, something the Army should examine and correct.

b. White Phosphorous. WP proved to be an effective and versatile munition. We used it for screening missions at two breeches and, later in the fight, as a potent psychological weapon against the insurgents in trench lines and spider holes when we could not get effects on them with HE. We fired "shake and bake" missions at the insurgents, using WP to flush them out and HE to take them out.

c. Hexachloroethane Zinc (HC) Smoke and Precision-Guided Munitions. We could have used these munitions. We used improved WP for screening missions when HC smoke would have been more effective and saved our WP for lethal missions.

We had several important targets, often reinforced houses that FOs had eyes on, that would have been more effectively engaged with a precision-guided munition, such as Copperhead with its shaped charge or the developmental Excalibur Unitary round that is concrete piercing (to be fielded in 2006). Barring the use of such precision-guided munitions, concrete-piercing (CP) fuzes would have been more effective than delay and PD fuzes were, but the latter were satisfactory.

d. Ammo Resupply. The biggest challenge we had was ammunition resupply. The amount of munitions expended was surprising, and we had to struggle to keep our cannons and tubes supplied. The targeting officer at the TOC and the S4 did a fantastic job of obtaining ammunition, but in the future, it would be easier to over-anticipate ammunition needs before the fight and stockpile it.

The Marines gave us what they had, and the location of the Paladin platoon on FOB Fallujah helped greatly. The fact that the Paladin platoon brought a palletized loading system (PLS) was a huge plus. It allowed the S4 to coordinate for ammunition and the Paladin platoon to pick it up.

In the final analysis, it all worked, but I recommend we not put ourselves in that position again. We never ran out of ammunition, but we came close several times.

10. CAS. We used CAS well in this fight, dropping more than 15 guided-bomb unit-12s (GBU-12s), which are laser-guided 500-pound bombs; four 2,000-pound joint direct attack munition (JDAMs) penetrators; and one Maverick. We also had more than six hours of AC-130 Specter gunship support.

a. CAS Effectiveness. We had problems with the GBU-12s. At least five duds were dropped, all from F/A-18s. The AC-130 was an awesome weapon, operating at night and prepping our deep battlespace with outstanding accuracy. The four JDAM penetrators were dropped on a bunker complex with excellent results. The bunker and more than 20 AIF were destroyed.

Initially, we had difficulty working with Marine air. However, once our JTACs learned the system, it worked rather well. An air liaison officer (ALO) from the Marines at the TOC would have helped in the early stages and facilitated the use of more Marine CAS.

b. Pulling Timely Air Assets. While the Air Force JTACs were useful on the ground, they had limited success pulling timely air assets. A TOC ALO is a must for two reasons: first, a Marine ALO with direct access to higher will pull air assets more quickly and be able to disseminate their fires faster than an Air Force JTAC on the ground. Second, you need an officer who understands the Marine system attached to the FSE for better coordination.

Air assets are requested through a different system than indirect lethal fires. An ALO with two radios tied in to higher and the battalion is a *must* and will cut air request times in half. Although air was planned, it often was difficult for the battalion JTAC to talk to the RCT-7 ALO and get air when needed.

c. CAS and Other Indirect Fires. A big lesson is that CAS was not a substitute for responsive artillery and mortars. CAS was most effective in the deep fight, particularly when used on intelligence-driven targets.

11. Unmanned Aerial Vehicles

(UAVs) and Tactical UAVs (TUAVS). UAVs were an integral part of this fight and should be included in any future planning. The UAVs in this fight—the Predator, Shadow, Hunter and Pioneer—were very effective for precision, intelligence-driven targeting. Their targets often were built-up strongpoints being fortified or occupied before our attack.

a. Targets in the Deep Fight. The UAVs gave us a great advantage in the deep fight, usually beyond the coordinated fire line (CFL). We engaged what the AIF considered safe areas well in advance of the forward line of troops (FLOT), destroying the AIF's command, control and communications (C^3) nodes and denying them any respite from the fight, a tremendous psychological advantage.

Except for the Raven TUAV, the UAVs provided 10-digit grids and accurate target descriptions, allowing us to choose the most appropriate weapon for the targets. The Raven also did not have enough loiter time to obtain the information we needed.

b. Targets of Opportunity. We attempted to initiate and adjust fire missions against targets of opportunity using UAVs as observation platforms and were unable to do so in a timely and accurate fashion. It was difficult to coordinate with the platform operators who were great distances away (some stateside) to give us the viewing angles needed for adjustments.

The TF TOC used UAVs for targeting and as observers for fire missions several times. But unless the UAVs were looking straight down, the grid received usually was off by several hundred meters. When adjusting from the Predator, the delay on the feed is about 20 to 30 seconds. The Shadow or Scan Eagle is a better platform for battalion indirect fires as they are more responsive and more easily adjusted.

We displayed the UAV feed in the TOC on a projector so the FSE could coordinate and call for fires. The easiest way to call for fires is to create a fictitious observer and adjust through cardinal directions (the operators flying the UAVs are not trained in calling for fires). We need to develop TTP for adjusting fires with UAVs.

The way to use a UAV is for the TF FSE to have this asset under its control. It was an almost insurmountable task to coordinate for and adjust fires accurately using UAVs because the controlling element had to describe the rounds' impact.

12. Personnel Manning. Big problems in this fight were lack of fire support personnel with concurrent operations in two separate geographical locations. The TF 2-2 IN FSE had 14 of 30 authorized personnel before the tactical road march to Fallujah.

a. Fire Support Personnel. TF 2-2 IN forward deployed with a 10-man FSE, including FIST personnel, leaving four personnel behind as part of the S5 and operations sections.

Even when the TF fire support NCO was able to join the FSE, the shortage of personnel stretched the FSE. At the TOC, the targeting officer and RTO literally slept next to the radios. Until the TF FSNCO arrived, the TF FSO was forced to maintain 24-hour operations for three days.

The company FSO for A/2-63 AR was WIA on Day +3, leaving that company with no organic FSE to facilitate fires, effectively taking them out of the indirect fire fight.

b. Manning Effects on the Fight. The shortage of fire support personnel put unnecessary strain on maneuver elements and damaged our ability to detect, engage and destroy targets. In future combat deployments, it is imperative for the Army to ensure fire support personnel are at or near 100 percent strength to avoid the problems we faced in this fight.

13. Training. The training that platoon, company and battalion personnel received at the various CTCs paid off richly. Our fire supporters could handle any mission presented to them.

TF 2-2 IN FSE conducted danger-close training several times in Iraq that paid huge dividends in the Battle of Fallujah.

a. Confidence in Fires for the Force. FOs were confident in their ability to call for and adjust close fires and often did so. Training with our organic mortar platoon facilitated our fire missions in Fallujah. We often worked with them, knew their capabilities and were supremely confident in them.

Although we had not worked with 2/A/1-6 FA before deploying to Fallujah, the battery's performance early in the fight quickly won our confidence.

b. Importance of Danger-Close Live-Fire Training. In our time in the Army, we have had limited live-fire training for danger-close missions until last summer in Iraq. The typical training of initiating and adjusting rounds on targets at great distances is vastly different from training for danger-close fires. The results of our missions clearly indicate this type of training must be implemented across the board for fire supporters.

c. Training for MOUT. We also learned that corrections in MOUT are much smaller, often smaller than the doctrinal minimum of add/drop 50 and left/right 30 that we are trained on. We often found it necessary to make adjustments smaller than these values to get rounds on target, particularly when engaging fighting positions, fortified houses, trench lines and spider holes. The artillery and mortars showed outstanding flexibility in applying these corrections.

Photo by SPC Brandi Marshall, 55th Signal, Combat Camera

Soldiers attached to A/2-2 IN clear a house in Fallujah during Operation Al Fajr on 13 November 2004.

The bottom line is that before engaging in offensive operations in a MOUT environment, it is imperative that all fire support personnel are highly trained on call-for-fire and adjustment procedures and their equipment. The MOUT environment is extremely fast-moving, and there is no time to waste. Fires must be initiated, adjusted and brought to the FFE phase rapidly.

Paladins and mortars are an integral part of this process, and must move as rapidly as the observers. Combined live-fire training for observers, the FDC and the guns is the answer.

14. Conclusion. The contributions of indirect fires were a decisive part of the Battle of Fallujah and contributed tremendously to the outcome of the fight. They allowed the maneuver forces to rapidly move through the city with minimum casualties and demonstrated what a joint and combined arms team can do.

The effects were physically and psychologically devastating. Not only did indirect fires destroy AIF personnel, but they also destroyed their will to stand and fight. Indirect fires also positively influenced our forces by demonstrating to commanders on the ground that overwhelming firepower was at their disposal.

The Paladin platoon greatly increased the TF's firepower, timeliness and flexibility, allowing us to move at an unprecedented pace through a fortified city.

We learned to use indirect fires early and often in large volumes. During the course of the battle, more than 2,000 artillery and mortar rounds were fired and more than 10 tons of precision Air Force munitions were dropped.

However, as successful as we were, had the battle lasted longer it would have been difficult to sustain fire support operations. We must learn from this fight to prepare for the future.

At the end of the fight we thought back on some of the things we were the proudest of. What jumped to the forefront was infantry and tank platoon sergeants, platoon leaders and company commanders telling us that the artillery and mortars were *awesome*. At the end of the day, that is what it is all about: our maneuver brethren recognizing why we are called the "King of Battle."

Captain James T. (Tom) Cobb has been assigned to 1st Battalion, 6th Field Artillery (1-6 FA), 1st Infantry Division, and served as the Fire Support Officer (FSO) for Task Force 2d Battalion, 2d Infantry, (TF 2-2 IN) in Operation Iraqi Freedom (OIF) II, including during the Battle of Fallujah. He also deployed with Kosovo Force (KFOR) 4B.

First Lieutenant Christopher A. LaCour, assigned to 1-6 FA, has been the Targeting Officer for TF 2-2 IN in OIF II, including during the Battle of Fallujah. Also in OIF II, he was a Platoon Leader for 2/C/1-6 FA and, previously, a Fire Direction Officer in the same battery.

Sergeant First Class William H. Hight, also assigned to 1-6 FA, has been TF 2-2 IN's Fire Support NCO since September 2003, deploying in OIF II and fighting in the Battle of Fallujah. He also deployed to Bosnia as part of the Implementation Force (IFOR) and to Kosovo as part of KFOR 4B.

Redleg CPT Jason Bender Selected Aviation Center Officer Instructor of FY04

Captain Jason M. Bender, Senior Fire Support Instructor, was named the Officer Instructor of FY04 at the Aviation Warfighting Center, Fort Rucker, Alabama. He received a plaque for his performance from the Commanding General of the Aviation Center and Fort Rucker, Brigadier General E.J. Sinclair, in ceremonies at the Museum of Army Aviation in December 2004. He also received a statue from the Army Aviation Association of America (AAAA).

Captain Bender is the Chief of the Fires Branch at the Aviation Center and has been a Fire Support Instructor at the Center since December 2002. In his previous assignment, he was a Task Force Fire Support Officer assigned to the 1st Battalion, 10th Field Artillery, part of the 3d Infantry Division (Mechanized) at Fort Benning, Georgia. During his career, he has deployed to Operation Allied Force as part of Task Force Hawk in Albania and Operation Desert Spring in Kuwait.

Captain Jason Bender, Senior Fire Support Instructor, receives a plaque for his performance as Officer Academic Instructor of FY04 from Brigadier General Sinclair, Commanding General of the Aviation Warfighting Center, in a ceremony at Fort Rucker last December.

B/377 PFAR:
Platoon-Based Fires in Afghanistan

By Captain Shane P. Morgan,
First Sergeant Robert H. Levis and
Lieutenant Colonel Harry C. Glenn III, IN

Two years after the beginning of the Global War on Terrorism (GWOT), B Battery, 377th Parachute Field Artillery Regiment (B/377 PFAR) and Task Force (TF) 1-501st Parachute Infantry Regiment (PIR)—TF Geronimo—deployed to Afghanistan in support of Operation Enduring Freedom (OEF). Upon deployment, the question was how to effectively employ cannon artillery and get the guns into the fight. The battery leadership studied the enemy, terrain, culture and many lessons learned from the 101st and 82d Airborne Divisions and 10th Mountain Division during their OEF tenures.

Upon official notification of the battery's deployment order, 3-6 FA, 10th Mountain Division, sent an informative secure internet protocol router network (SIPRNET) email to the battery commander stating, in part, "OEF artillery battery operations are 3200-mils out from anything our leaders or Soldiers had ever experienced."

The best insight into forthcoming operations was to break away from the battery mindset and prepare to split the unit into two three-gun or even three two-gun platoons. Independent, split-battery, 24-hour continuous combat operations became the norm.

Distributing fires in support of combat operations throughout noncontiguous areas of operations (AOs) would be strongly favored over mass for both maneuver and their supporting artillery. Simply put, to cover all elements with fires, we needed to rapidly adapt and organize our battery—six guns and a one-gun "float"—into a platoon-based battery.

The purpose of this article is threefold: to offer techniques that facilitate platoon-based cannon artillery operations, to highlight some of TF Geronimo's combat experiences in OEF and to explain why artillery platoons, when properly equipped and manned, best provide maneuver elements what they need to win on today's battlefield.

Initial Combat Operations. In early November 2003, TF Geronimo closed on Forward Operating Base (FOB) Salerno with 852 combat-ready paratroopers tactically positioned to conduct continuous combat operations. FOB Salerno is southwest of Kabul along the Afghani-Pakistani border. (See the map in Figure 1 on Page 30.)

The firing battery occupied and began constructing a six-gun, 6400-mil firebase while establishing and maintaining a 24-hour firing capability to sup-

A howitzer is sling-loaded to be flown back to Forward Operating Base (FOB) Salerno, Afghanistan, during Operation Avalanche on 14 December 2003.
(Photo by Spc. Gul A. Alisan)

port the TF. It was during this timeframe that the TF received a warning order (WARNO) to prepare to deploy two howitzers and associated personnel and equipment via airlift for an indefinite tasking in support of Kandahar Airfield with a sequential, on-order mission to support Bagram Airfield as part of base defense plans.

It is important to note that AO Geronimo covered more than 10,000 square kilometers and has flat terrain within the Khowst Bowl and mountainous, rugged, restrictive terrain along the Pakistani border. In perspective, AO Geronimo is more than three times as big as the "box" at the Joint Readiness Training Center (JRTC), Fort Polk, Louisiana, and twice as large as the National Training Center (NTC), Fort Irwin, California.

During mission analysis, questions requiring immediate attention were "How will this tasking degrade capabilities and affect responsiveness? Can the battery maintain the 24-hour counterstrike requirement? Will this limit the ability to provide indirect artillery support of maneuver operations outside the wire?"

The answers to these questions were forthcoming. But, for the time being, the order necessitated that B/377 PFAR establish at least one two-howitzer firing platoon to operate independently for a sustained, multi-month duration.

Methodology. Why split-battery platoon-centric operations? The answer is tied to adapting our capabilities to counteract the enemy's advantages during a counterinsurgency. Given the size, spectrum and austere environment of our battlespace and the fleeting enemy we were fighting, centralized planning and decentralized execution was the preferred course-of-action (COA).

A significant task during any counterinsurgency fight is the ability to collect actionable intelligence while separating the enemy from the populace, drying up enemy safe havens. The expectation that maneuver companies can accomplish this essential task alone is invalid. If we are to mass our combat power at the critical time and place, then distributive and decentralized operations involving every available Soldier is the most feasible option for accomplishing the task.

The greatest challenge for our Artillerymen was how to maintain indirect fire support coverage for each maneuver element throughout these operations. The TF commander's intent for fires would not change during the decentralized process: "Get the guns into the fight." We understood that anything short of meeting this intent could jeopardize the mission.

Without question, Soldiers faced many non-doctrinal tasks throughout GWOT. Certainly Redlegs in Operation Iraqi Freedom (OIF) and OEF are performing these non-doctrinal tasks as a rule, not as exceptions.

If distributive operations throughout noncontiguous AOs are to remain strongly favored over mass and artillery fires continue to support all maneuver operations, then artillery batteries, or in this case, artillery platoons, must be organized and equipped to support these distributive ops.

Reorganization Techniques. Unfortunately, when operating as a separate battery, the manning and equipment needed to split a unit "come out of hide." Fillers from other FA batteries or the FA battalion staff are not part of the equation. Our unit started this process with our howitzer sections. (See Figure 2 on Page 31.)

Outfitting our gun crews within the three-platoon concept was the easy part: we assigned first and second howitzer sections in first platoon, third and fourth howitzer sections in second platoon, and fifth and sixth howitzer sections in third platoon.

The next part, command and control (C^2), was more challenging. We needed three leaders for C^2 of these platoons, but our challenge was in deciding whom to task and how much risk we were willing to accept.

After much deliberation, we assigned our battery operations officer—who was excess on our modified table of organization and equipment (MTOE)—the duties of the 1st platoon leader, the fire direction officer (FDO) as the 2d platoon leader and the battery executive officer (XO) as the 3d platoon leader. The platoon leaders' respective platoon sergeants were our chief of firing battery, gunnery sergeant and the most senior howitzer section chief.

Creating three fire direction centers (FDCs) from one proved our biggest challenge. Fortunately, our headquarters platoon sergeant (also excess to the MTOE) was a Military Occupational Specialty (MOS) 13D4P (Parachutist) FA Tactical Data Systems Specialist who provided expertise throughout this process. His technical creativity enabled the unit to outfit three separate, fully

Figure 1: Platoon-Based Operations. While establishing its position area on FOB Salerno, Task Force (TF) Geronimo's B Battery, 377th Parachute Field Artillery Regiment (B/377 PFAR) received a warning order (WARNO) to prepare to airlift two howitzers and associated personnel and equipment for an indefinite tasking in support of Kandahar Airfield to the south. B/377 PFAR had a sequential, on-order mission to support Bagram Airfield to the north as part of base defense plans.

mission-capable and certified platoon FDCs.

During this internal battery transformation, we cross-leveled several mission-essential items, including handheld terminal units (HTUs), battery computer systems (BCS), firing charts, OE-254 antennas and advanced system improvement program (ASIP)/FM radios. Finally, our battery had created three mobile FDCs in high-mobility multipurpose wheeled vehicles (HMMWVs) and one static FDC at the firebase with a hard-stand, advanced FA tactical data system (AFATDS) and Blue Force Tracker (BFT). Our static FDC was collocated with the battery operations center (BOC) in a general-purpose medium tent that doubled as our 24-hour C^2 and technical fire direction node throughout the deployment.

Additional FDC leadership positions included our primary chief computer's assuming the duties of the 1st platoon FDC chief and our computer operator's certifying as the chief fire direction computer of the newly created 2d platoon FDC. After conferring with the TF command sergeant major, the battery was authorized to make its final key leader move of gaining the assistant TF operations NCO, an MOS 13C3P Tactical Automated Fire Control Systems Specialist, to be the FDC chief for 3d platoon.

After many personnel moves and intra-battery equipment transactions, the unit had overhauled all key leader duties and responsibilities. Each of the three firing platoons had a platoon leader, platoon sergeant and an FDC. Each of the FDCs had one officer who doubled as the platoon leader, one fire direction NCO, two Soldiers and the minimum mission-essential equipment to conduct independent operations. Within 60 days of arriving in theater, we rapidly had transformed our battery into three two-gun platoons that were fully mission-capable.

Initial Testing. 2/B/377th PFAR (19 personnel) was the first to deploy to Kandahar Airfield under the new two-gun platoon organization while the remainder of the TF ramped up for Operation Mountain Avalanche. This theater-wide operation provided the battery and TF the opportunity to validate the artillery platoons' execution of their combat tasks.

Avalanche was a combat operation with many significant combined arms lessons learned at all levels. The primary learning point for indirect systems was that our platoon-based operations concept worked magnificently. However, we also recognized that we could no longer rely on mortars to support the FOB counterstrike plan.

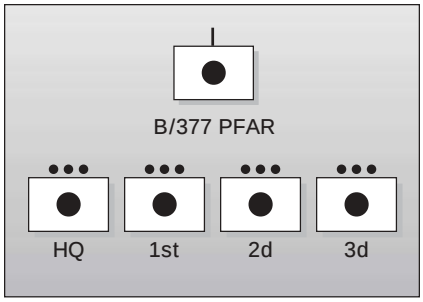


Figure 2: B/377 PFAR Reorganization for Platoon-Based Operations in Afghanistan. B/377 PFAR reorganized into four platoons. Each firing platoon had two M119 105-mm howitzers and a fire direction center (FDC). The Headquarters (HQ) platoon had one "float" M119.

During this operation, FOB Salerno received eight 107-mm rockets with a point of origin (POO) greater than eight kilometers from our FOB. With 2/B/377 deployed to Kandahar and 1&3/B/377 deployed more than 30 kilometers to the south, there was no indirect asset inside the wire that could provide immediate counterstrike on the POOs. 120-mm mortars are an outstanding indirect system, but no mortar system can counterstrike an enemy 107-mm or 122-mm rocket firing at or near their maximum ranges.

From December 2003 through July 2004, the battery maintained 24-hour continuous 105-mm firing capability from within the FOB with at least one platoon FDC and one howitzer section manning its position at all times. We knew that every second counts in a counterstrike—seconds can equate to casualties, friendly or enemy casualties. The only immediate delivery means to take out enemy rockets were B Battery's howitzers.

Our next combat operation, Mountain Blizzard, closely mirrored Avalanche and was another successful combat operation. During the same timeframe, 2/B/377 relocated from Kandahar Airfield to Bagram Airfield and established a counterstrike link with the Q-37 Firefinder radar positioned there.

Because of Operation Avalanche's key lesson learned, 3/B/377 was attached to the FOB security maneuver company and maintained a linkage with the Q-36 radar for a 24-hour firing capability.

Indirect fire assets available for Mountain Blizzard were 1/B/377 and its two guns and the 120-mm mortar platoon from 3-6 FA that had supported the TF's (-) conducting continuous combat operations in the far western portion of our AO. Operation Mountain Blizzard took 14 days and neutralized a terrorist cell. The TF (-) then redeployed to FOB Salerno to refit, recover and maintain 24-hour continuous counterstrike responsibility.

Combat History. Similar to all historical combat operations, it was not until the TF leadership conducted a detailed 100-day after-action review (AAR) that we understood the impact of terrain, the elements, population and, most importantly, the enemy we needed to hunt down and kill or capture. The TF AAR focused all Geronimo leaders and staff sections on how we saw the enemy and how we saw ourselves.

It was not until our leaders and troops had collectively experienced and seen the complete environment (post-Operations Avalanche and Blizzard) and cross-leveled information that we could paint a clear picture and thoroughly assess our battlespace. This truly opened our eyes to the terrain, size and scope, and all fully concurred that our piece of the pie was enormous.

The first priority of the TF commander was to collectively readdress how we were massing our forces and fires. After Operations Mountain Avalanche and Mountain Blizzard, we assessed our effectiveness and ascertained that the fight in our AO was a platoon leader's fight. To force the enemy to show his face, we had to conduct operations in smaller formations.

Providing C^2 at the company level, synchronization, fusion and asset allocation from the battalion TF gave our young platoon, squad and team leaders every advantage and asset needed and enabled them to win every fight. This doesn't mean the TF wasn't well prepared going into Operations Avalanche and Blizzard or didn't have excellent planning information. It simply validates the fact that nothing is more valuable than "putting boots on the ground" throughout the AO. To become more effective, TF Geronimo became more adaptive and flexible. Our artillery platoons had to achieve the same or greater level of flexibility to accomplish their assigned tasks, operating within the nontraditional three-platoon concept.

Tactics, Techniques and Procedures (TTP) Implementation. After analyzing our operations, the battery refined its TTPs to become more effective. During this time, the first platoon leader was selected to redeploy and assume duties as the rear-detachment commander. This was a significant leadership loss to the battery, especially to first platoon. But as the TF commander stated, "If it didn't hurt to send him back, then he probably wasn't the man for the job." This drove the decision to move the targeting officer out of the TF fire support element (FSE) to lead first firing platoon.

We also discovered that the battery still required a dedicated XO to resource and provide maintenance and logistical support for the three platoons. Additional personnel moves then included the headquarters platoon sergeant's (13D4P) assuming platoon leader responsibilities for 3/B/377, enabling the XO to concentrate on sustaining the battery. And with semi-annual howitzer certifications due, we needed a dedicated master gunner, which mandated our chief of firing battery concentrate on certifying the howitzer sections.

The decision to move "Smoke" out of a platoon sergeant position required another senior staff sergeant section chief to assume platoon sergeant duties. This afforded another gunner the opportunity to certify and perform duties as the chief of section of first howitzer section. We had broken away from six-gun battery operations, but regardless of how degraded our platoons became, we would not assume risk with platoon-level leadership.

Thus, we ensured that each element maintained a designated platoon leader and platoon sergeant throughout the deployment.

Tactical Results. Fortunately, the TF was outfitted with all indirect assets required of a maneuver battalion. Included in the Geronimo task organization (organic and attached) were six M119A2 105-mm howitzers (plus one operational float), two 120-mm mortars, four 81-mm mortars, one Q-36 radar and two lightweight countermortar radars (LCMRs). Each system gave the commander several options and many of the same or similar desired effects.

Without question, the rapid rate-of-fire and flexibility of mortar systems has proven a tremendous combat multiplier throughout the deployment. A significant constraint that applies to any mortar system is that it cannot range and, therefore, cannot counteract the extremely high rocket threat facing FOBs.

B Battery, 377th Parachute Field Artillery Regiment (B/377 PFAR) in Afghanistan.

During the course of nine months, enemy forces fired 150 to 200 rockets at our TF troops with the intent to kill friendly forces where they slept. 107-mm and 122-mm rockets remained the biggest threat to static forces in the FOB, and although the 120-mm mortars can range out to more than seven kilometers, they cannot counterstrike the 107-mm or 122-mm rockets.

TF 1-501 PIR's primary deterrents to enemy rocket fires were active counterrocket patrols at known or suspected POOs and aerial over flights of named areas of interest (NAIs). The enemy understands the terrain, as he has spent the better part of his life in this AO, and is adaptable enough to fire rockets in this nonlinear fight. The number one defensive measure against a rocket launch in our AO was lethal 105-mm fires that could range all enemy rocket POOs.

After many rehearsals from sensor (Q-36/LCMRs) to shooter (105-mm), the Geronimos developed and fine-tuned a clearance-of-fires battle drill that provided immediate counterstrikes on acquired POOs. B/377's essential task in OEF remained supporting our maneuver brethren with fires and, simultaneously, making the insurgents true believers in the devastating effects of cannon artillery. Timely counterrocket fires alone defined the FA's relevancy in our AO, but with three independent platoons, the TF commander could ask much more from his organic artillery battery.

Why Platoon-Based Artillery Operations Work. After solidifying our personnel moves and incorporating our TTPs, our three-platoon concept was complete and, once again, put to the test during the next major combat operation, Operation Mountain Storm. The battery frequently maneuvered as Team Eagle with one firing platoon, one scout platoon and one up-armored platoon under the C^2 of the battery commander.

Team Eagle had the combat power to function as a maneuver combat team, enabling the TF to move artillery closer to any given objective area. Team Eagle also maintained force protection and direct fire capabilities to move and secure itself while conducting village assessments and cordons and searches and attempting to answer the commander's priority intelligence requirements (PIRs).

As Operation Mountain Storm began, the TF was relieved of the Bagram Airfield artillery platoon tasking, which brought all three firing platoons under the C^2 of the battery. With three independent firing elements in one battery, we attached one firing platoon to any given maneuver company and one platoon to deploy with Team Eagle as a maneuver team, always leaving a third platoon at FOB Salerno with the Q-36 to support the 24-hour counterstrike plan.

Typical non-doctrinal tasks (excluding the FOB Salerno counterfire platoon) included B Battery instructing an English Language School for local children (featured in *Army Times*). The battery also conducted operations from within the local populace, such as training and resourcing the local national police force, constructing and funding several irrigation wells, providing tractors to local villages, delivering generators to schools, performing mounted and dismounted security for the UN Assistance Mission in Afghanistan

(UNAMA) voter assistance teams, and providing medical supplies for the medical civil affairs program (MEDCAP) for local villagers and veterinarian civil affairs program (VETCAP) for their live stock.

These missions provided information operations (IO) or other nonlethal effects with a two-fold purpose. First, we built rapport with and gained the trust and confidence of the local populace while providing them a safe and stable environment. Second, we received information from sources in the populace that led us to enemy forces. Our intent was to find, fix and finish the enemy, but without the support of the populace, it would have been difficult, if not impossible.

Counterinsurgency Artillery TTP. Throughout our deployment, one cannon artillery TTP that made a difference was employing artillery in a show-of-force capacity. While artillery platoons on mounted patrols performed IO and psychological operations (PSYOPs), the "Big Guns" affected the enemy psyche and often triggered a response. Regardless of the task—providing MEDCAP or VETCAP or conducting routine mounted patrols—all M119A2 howitzer platoons "left the wire" ready to support any mission, nonlethal through direct or indirect live fire to achieve desirable effects.

To counter the insurgents' advantage of blending with the population, we learned that when a cannon battery conducted a live-fire with its howitzers, even just as a "demonstration," the general populace felt a sense of security. As a result of the deafening sound of artillery from both delivery and receipt, the enemy was forced to communicate a situation report (SITREP) to superiors that often allowed us to pinpoint their locations. Bottom line: the battery often live fired and stimulated signal intelligence (SIGINT). On any given day throughout our deployment, we habitually had one platoon conducting Team Eagle missions, including live fires; one platoon attached to or performing direct support for a maneuver company; and one platoon maintaining a 24-hour no-notice counterstrike capability from FOB Salerno.

In more than nine months, the three two-gun platoons of B/377 PFAR accurately and safely delivered in excess of 1,000 howitzer rounds through our seven M119A2 cannons, including 110-extended range munitions (M913 rocket-assisted projectiles and Charge 8). Each round was tied to an essential fire support task (EFST) and took the form of demonstration fires, precision registrations, counterrocket and countermortar fires, or danger-close support for troops in contact.

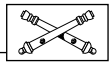
Throughout countless operations, the battery maintained a firing capability in one or more locations and, post-Avalanche, never lost the ability to support the counterstrike fight.

As a result of artillery platoon-based operations, the 852 paratroopers assigned to TF 1-501 PIR were never without cannon artillery support for their operations. Without question, FOB Salerno slept better at night, knowing one of three howitzer platoons and one of three alert FDCs digitally linked to the Q-36 radar were ready to counterstrike on-call.

Most importantly, when asked if they love their artillery, the 11 series Infantrymen assigned to Apache, Blackfoot, Comanche and Delaware Companies unanimously and without hesitation said, "Hell, yes!"

Although our platoon operations were tested only in our OEF AO, we believe our method will work equally well in any theater throughout the GWOT.

Decentralized operations with platoons hunting insurgents are critical to our success in this fight. We must focus efforts on the platoon architecture in all combat arms branches. We strongly recommend the Field Artillery move toward including platoon-centric operations and platoon-based fires in our doctrine, TTP and training.



Captain Shane P. Morgan commanded B Battery 377th Parachute Field Artillery Infantry Regiment (B/377 PFAR) and deployed to Afghanistan for Operation Enduring Freedom (OEF) from June 2003 until August 2004 as part of Task Force 1-501st Parachute Infantry Regiment (TF 1-501 PIR). Currently, he is an Action Officer in the Collective Training Directorate at the Combined Arms Center, Fort Leavenworth, Kansas. In a previous assignment, he commanded C Battery, 4th Battalion, 11th Field Artillery (4-11 FA), 172d Light Infantry Brigade (Separate), Fort Richardson, Alaska.

Master Sergeant Robert H. Levis is the First Sergeant of B/377 PFAR and deployed with the battery for OEF from September 2003 until August 2004. Among other assignments, he was the First Sergeant and Chief of Firing Battery in C/4-11 FA and Senior Enlisted Firing Battery Observer/Controller at the Joint Readiness Center, Fort Polk, Louisiana. He has served 20 years in the Army's light infantry units.

Lieutenant Colonel Harry C. Glenn III, Infantry (IN), commanded TF 1-501 PIR, Fort Richardson, Alaska, and deployed the task force to Afghanistan from July 2003 through August 2004. He is now attending the Joint Advanced Warfighter School at National Defense University in Norfolk, Virginia. He also has served as the S3 of the 3d Brigade, 82d Airborne Division, and S3 of 2-505 PIR, both at Fort Bragg, North Carolina.

2005 *Field Artillery* Photo Contest Call for Entries

The *Field Artillery* magazine call for entries deadline has been extended to 1 June 2005.

The purpose of this first annual contest is to obtain high-quality photos capturing Field Artillery personnel or units in training or actual full-spectrum operations for use in the Chief of the Field Artillery's poster series, as cover or other shots for *Field Artillery* or in other esprit de corps or strategic communications projects.

Photos should capture images that help tell the story of today's Army and Marine Field Artillerymen in the Global War on Terrorism or training for GWOT.

The competition is open to anyone, military or civilian, amateur or professional photographer.

Prizes will be awarded in two categories: (1) Training for or Actual Combat Operations and (2) Training for or Actual Stability and Support Operations. A First Place of $500, Second Place of $250 and Third Place of $75 will be awarded in both categories.

For competiton submission guidelines and rules, visit our website at sill-www.army.mil/famag.

1st ID in OIF II

The Role of the TAB in Radar Operations

By Captains John J. Neal
and Adam C. Wojcik
and Major Mark N. Roder, MNARNG

Radar operations are a critical component of the 1st Infantry Division's multi-battlefield operating system counterstrike fight. The operating environment in Iraq is defined by non-contiguous battlespace, the inability to provide mutual support in traditional ways and, most importantly, an adaptive, determined enemy.

The 1st ID relies on its target acquisition batteries' (TABs') headquarters to manage the 15-plus radars operating in support of the division. This article makes the case for the importance of these headquarters in future force structures. It was co-authored by three TAB commanders—two in the Active Component and one in the Minnesota Army National Guard (MNARNG).

Colonel Richard C. Longo
Commander, 1st Infantry Division
(Mechanized) Artillery in Iraq

From March through May 2004, 1st Infantry Division forward operating bases (FOBs) were attacked by enemy indirect fire on 435 occasions. Of those attacks, 194 were acquired by radars. Radars are part of a force protection package and indispensable for counterstrike operations in theater.

Yet radars require constant maintenance and repair, especially in the Iraqi climate. Frequently, units that own and position the radars are unable to meet all the radars' maintenance needs. Individual radar sections neither have access to repair parts nor exposure to or oversight of all radars in the area of operations (AO), which is where the division artillery (Div Arty) and TAB headquarters come in.

The Div Arty headquarters provides the only holistic radar analysis in the division and is primarily responsible for radar management across the division's AO. This is because the artillery battalions embedded in the brigade combat teams (BCTs) are serving as maneuver task forces. Two of the Div Arty's principal assets in completing this mission are the divisional TAB headquarters elements of D Battery, 1st Battalion, 33d Field Artillery (D/1-33 FA) and E/151 FA, the latter an echelon-above-division (EAD) unit. The 25th FA Detachment (FAD) from the 25th Infantry Division (Light) served with the division in Iraq as well.

It would be difficult for the Div Arty

to manage the division's radars without TABs because radar sections are not meant to be independent operators. TABs are essential to radar maintenance, training, command flexibility, personnel management and various other important functions.

Radar Maintenance. The most critical function of the TAB headquarters is radar maintenance. The TAB's radar maintenance section has one senior radar repairman, Military Occupational Specialty (MOS) 35M Radar Repairer, and the battery's essential repair parts stockage listings (ERPSL) and recommended stockage inventory listing (RSIL) stored on two five-ton trucks.

The radar repair section is supplemented with Soldiers from the TAB headquarters who man the vehicles. This section routinely conducts combat patrols throughout the sector to help repair the division's radars; on many occasions, the section has been instrumental in keeping other counterstrike radars operational in theater.

In most cases, the TAB can fix a radar without seeking assistance from a Communications Electronic Command (CECOM) logistics assistance representative (LAR) or from the Div Arty because it has a senior radar repairman with a wealth of experience working on the battery's systems. The TAB has fixed problems at the lowest level and saved limited resources at the division level.

The TAB maintains a full set of ERPSL and RISL at the headquarters level. Having all radar equipment under one command allows better equipment visibility. The high cost of radar repair parts and limited number produced does not allow every radar section to have its own set of parts. Each radar has limited parts for the most common faults.

The battery's mobile ERPSL allows the radar repair team to travel to the non-mission-capable (NMC) radar, troubleshoot the system and draw from the stock of parts on site. If systems need to be parked side-by-side comparing oscilloscope readings, it can be done in a TAB unit owning more than one system. This allows repairs to be made without having to tap external resources, pull parts from other radars or request LAR support.

The oversight of a strong radar-focused headquarters element also shows in coordinated preventive maintenance schedules and command-directed focus areas. In the quest to keep radars fully functional, a clear understanding of the faults and the ability to accurately communicate those faults is essential when reporting to higher headquarters and requesting support.

The artillery community, by and large, lacks a complete grasp of radar particulars; therefore, the knowledge a seasoned radar platoon sergeant brings to the fight is invaluable.

Finally, radar parts are priceless, in some cases. Properly accounting for ERPSL is essential, and while supply warehouses take the utmost care, the requisition and handling of radar repair parts is always best left to the Soldiers who care the most—the headquarters of the team desperate for a specific part that will fix a down system.

Radar Section Training. Having all the repair personnel in a single organization enables a consolidated training program. The training of a radar section includes many external resource requirements that can be better used for a large number of Soldiers to train instead of individual radar's training independently. The training includes, but is not limited to, mortar or artillery live-fire exercises, digital communications drills and lane training run by external evaluators.

The TAB training also is standardized across sections because the commander, who is the subject matter expert, drives training standards and develops a common training program. The leadership of the radar sections can leverage each other to work through training issues and improve tactics, techniques and procedures (TTPs) and standing operating procedures (SOPs).

This consolidated training paid dividends in Iraq. We observed that the combination of a solid radar training foundation and the creative minds of radar warrants and senior NCOs changed the way we dealt with overheating and dust in Iraq. The TAB or FAD headquarters connected to the Div Arty counterstrike officer helped disseminate these modifications and troubleshooting procedures in a timely manner, keeping the team functioning properly. Communications about training techniques between sections and batteries was essential to team success.

Command Flexibility. TAB commanders are assets to the deployed force. The TAB commander and support staff can be used to best meet the needs of the division, Div Arty or counterstrike headquarters. These assets can work longer term issues while the Div Arty counterstrike officer works the current fight, or they can work emergency issues the counterstrike officer does not have the capacity to support. This allows the counterstrike officer to work technical issues while the TAB commander is working logistical and tactical issues.

Personnel Management. The TAB allows a commander, first sergeant and first-line leaders to manage personnel across the radar sections to ensure that each radar has a balance of both seasoned and new Soldiers to make up a cohesive team. The many 13R FA Firefinder Radar Operator and 131A Radar Technician slots allow the flexibility to put together five strong sections. A young sergeant can be teamed with an experienced staff sergeant; a new warrant officer can be teamed with a strong staff sergeant; or a brand new staff sergeant can be matched with a strong section to allow him to learn his job and be set up for success.

In the Reserve Component, NCO courses can keep first-line leaders out of training cycles for up to eight months. Forming a section that has the proper mix of personnel can alleviate such a training loss. The freedom to shift and move personnel empowers a commander to make the strongest collective sections possible to meet the needs of the mission.

Having five sections from which to select allows a TAB commander to conduct proper military decision-making to assign his sections to maneuver units where the strength of the section matches the needs of the maneuver commander and the combat situation. This could result in emplacing either a Q-36 or Q-37 system for proper radar coverage for an AO. It also may mean positioning sections in locations where they can best tackle the problems at hand. An example of this is placing a section with a strong 35M or 131A at a site at the end of a support chain and putting a section weaker in maintenance at a location with a LAR or a forward support battalion (FSB).

The ability to flex specialty MOS Soldiers to critical points on the battlefield is a strength of TABs. 35Ms and 52D Generator Mechanics are in short supply. Their skills and tireless efforts in difficult situations keep the counterstrike battle raging. The division's fight gets a significant boost from the traditional TAB or FAD headquarters commander's knowledge of radar operations and their assets

Other Functions. The TAB headquarters also performs other functions. It coordinates for limited resources for all radar sections.

For example, the TAB headquarters has worked through the Div Arty headquarters to the division G4 to obtain solar shades for the radars, which are critical to keeping the systems operational in the 130-degree heat of the Iraqi summer. The TAB headquarters also has supplied the radar sections additional Class IV material to protect the radars from both direct and indirect fire. In short, the TAB headquarters provides leadership and guidance from senior radar leaders within the TAB to warrant officers and NCOs across the battery.

Another example—the TAB moved, coordinated for the distribution of and supplied the technical assistance for the division's deception wooden radars. The battery also provided the camouflage nets, tents and generator equipment that made the deception radars a success.

The TAB works directly with the division counterstrike officer to monitor and augment existing radar operations and to ensure that the radar element of the counterstrike fight is successful. The TAB acts as the Div Arty Commander's eyes and ears at the section level to ensure that radars are getting the support they require.

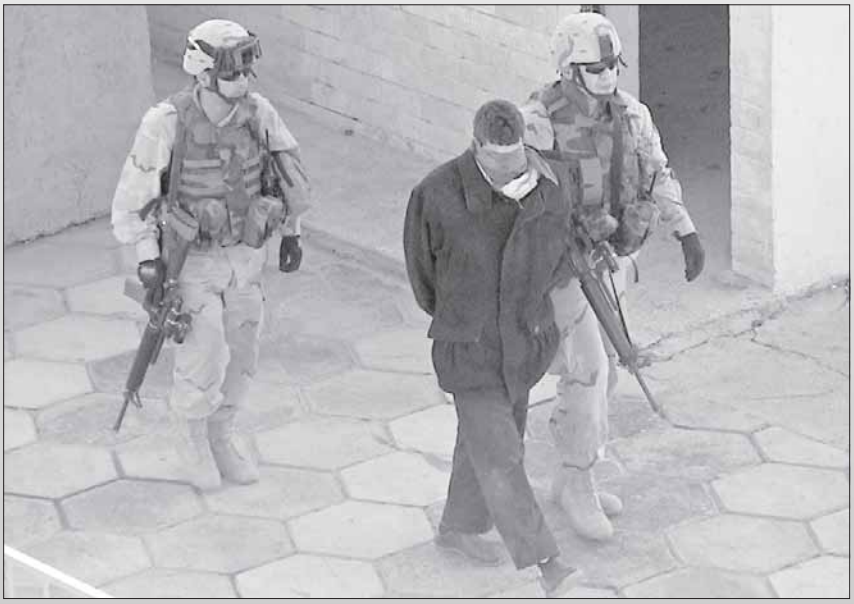
Also, the TAB or FAD commander plays an important role in future procurements for his team. The Army's technological growth demands leaders capable of envisioning a need, finding the tool to solve the problem and then actively pursuing the equipment for the unit. TAB and FAD commanders are requisitioning air conditioning systems for Q-37s, lightweight countermortar radars (LCMR) for FOB force protection and acoustic radars as added counterstrike resources.

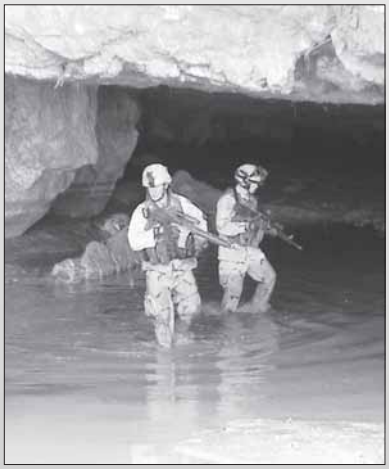
TAB headquarters can move across the battlefield without external support and offer leadership and guidance across the battery. It is imperative that this organization be retained to fight and win in the future.

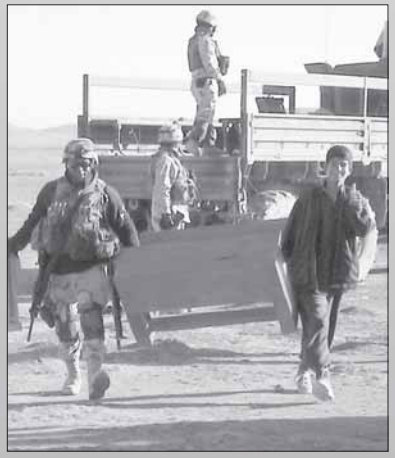
Captain John J. Neal is the Commander of the 1st Infantry Division's Target Acquisition Battery, D Battery, 1st Battalion, 33d Field Artillery (D/1-33 FA) deployed to northern Iraq as part of Operation Iraqi Freedom (OIF) II in February 2004. Previous assignments include serving as Assistant S3 for 1-33 FA in Germany, also in the 1st Infantry Division, and Battalion Fire Direction Officer (FDO) for 1-15 FA, 2d Infantry Division in Korea.

Captain Adam C. Wojcik commands the 25th FAD, part of the 25th Infantry Division, and deployed to OIF II in February 2004, assigned to the 1st Infantry Division in Iraq. His assignments include serving as Executive Officer and FDO for C/2-11 FA. He was a Fire Support Officer (FSO) for A/1-14 IN in the 25th Infantry Division (Light) at Schofield Barracks, Hawaii.

Major Mark N. Roder commands E/151 FA (TA), part of the 34th Infantry Division (Mechanized), Minnesota Army National Guard (MNARNG). He also deployed his battery in support of the 1st Infantry Division in OIF II in February 2004. He has served as the Battalion FDO and A Battery Commander in 1-125 FA (155-mm self-propelled), also in the 34th Division.







Bringing in a Bad Guy

Above, CPL Ryan Brazil, A/2-8 FA, and PFC Jose Rosas, HSB/2-8 FA, bring in a Bad Guy in Ash Shurah, south of Mosul. These Task Force 2-8 FA Soldiers are assigned to the 1/25 SBCT, currently serving in Iraq. Top right, SGTs Daniel Dicker, HSB/2-8 FA, and Timothy Phillipson, A/2-8 FA, search a cave for weapons caches near Ash Shurah. Bottom far right, SGT Sampson Mitchell, B/2-8 FA, unloads desks in Farisiyah, south of Mosul. Right, SPC Brandon McClure, 2-8 FA, stands guard at a "flash" traffic control point west of Qayarrah.

CMO in Baghdad

3-82 FA *Red Dragons* Hit the Streets

By Captain Evans A. Hanson

The battalion intelligence officer (S2) forecast the day's high temperature in Baghdad as a steamy 110 degrees. The pavement in the Mansur neighborhood was hot, and hundreds of cars packed the smoggy streets.

The dismounted combat patrol in that neighborhood had many intelligence requirements. Who owns this hardware store on Mansur Street? What are the Iraqi civilians thinking about the upcoming transfer of national sovereignty? What was the message of last Friday's prayer call? How is the nearby school rehabilitation project progressing?

Certainly the NBC television crew following the patrol didn't help the pressure-cooker sensation. As always, the foot patrol was acutely aware of the constant enemy threat, including snipers, suicide car bombers and other terrorist criminals.

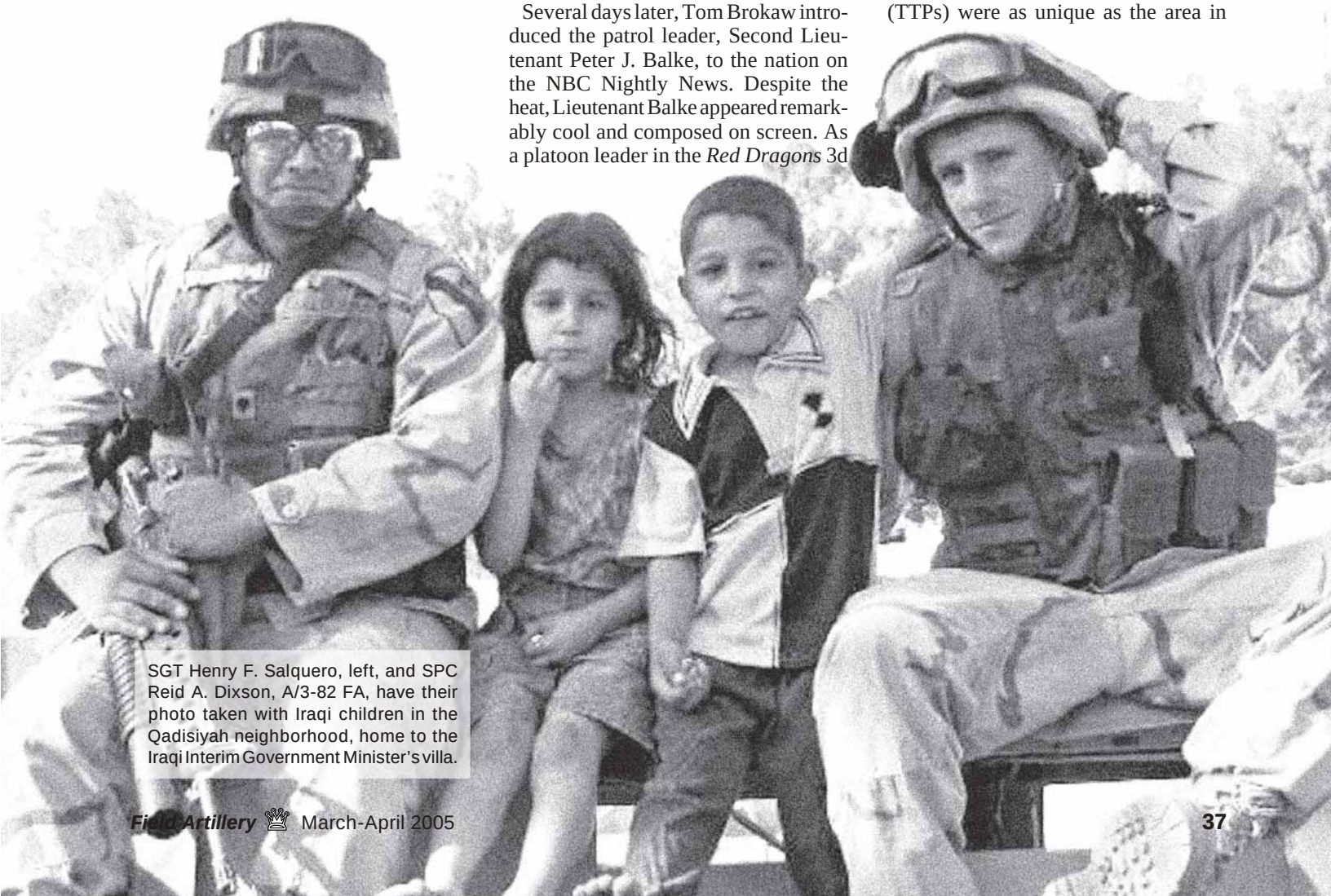
By the end of the patrol, the patrol leader, a second lieutenant, had spoken to scores of local residents and a local neighborhood council member, negotiated a resolution to a contractual disagreement between a school headmistress and a contractor, and obtained a sense of the locals' feelings of apprehension regarding the transfer of sovereignty.

In an hour's time, the combat patrol had collected actionable intelligence, supervised a civic action project, negotiated with local leaders, conducted an "atmospherics" assessment, dealt with television media, and provided security on a major urban intersection. After returning to the battalion tactical operations center (TOC), the patrol leader debriefed the battalion civil military operations (CMO) officer (S5) and S2 on his successful mission.

Several days later, Tom Brokaw introduced the patrol leader, Second Lieutenant Peter J. Balke, to the nation on the NBC Nightly News. Despite the heat, Lieutenant Balke appeared remarkably cool and composed on screen. As a platoon leader in the *Red Dragons* 3d Battalion, 82d Field Artillery (3-82 FA), 1st Cavalry Division, his Mansur patrol had been just another CMO mission among many.

In Baghdad, 3-82 FA was organized as a motorized infantry battalion in the *Blackjack* 2d Brigade Combat Team (BCT) and routinely conducted combat patrols. The *Red Dragons* took CMO seriously, and Lieutenant Balke had the training and experience to do it right.

This article shares the *Red Dragons'* experiences in CMO during their tour in central Baghdad from January through November 2004 in support of Operation Iraqi Freedom (OIF) I and II. 3-82 FA applied both emerging and established doctrine from many specialties, including civil affairs (CA), public affairs (PA), information operations (IO) and others to create an effective standard for CMO. Although these CMO tactics, techniques and procedures (TTPs) were as unique as the area in



SGT Henry F. Salquero, left, and SPC Reid A. Dixson, A/3-82 FA, have their photo taken with Iraqi children in the Qadisiyah neighborhood, home to the Iraqi Interim Government Minister's villa.

which the *Red Dragons* operated, they might provide points of departure for other units deploying to Iraq today.

The Neighborhood. The *Red Dragons'* area of operations (AO) was sandwiched between the infamous Green Zone, now called the International Zone, in downtown Baghdad and the roiling Sunni Arab neighborhoods of western Baghdad. Socio-economically, the Mansur District in the AO is wealthier than many other areas of the city and is home to many of the major players in Iraqi politics.

The terrorists and criminals, also known as anti-Iraqi forces (AIF), often attempted to attack troops in convoys, fixed-site security points and patrols. However, their most disruptive operations were criminal and terrorist activities, such as kidnappings and car-bombings against Iraqis in prominent government positions and those working with the MultiNational Forces (MNF).

3-82 FA faced some limitations upon assuming its mission in February 2004. The unit had a 15-to-30 minute "commute" to its AO from a camp near the Baghdad International Airport.

Also, 3-82 received one CA Team-Alpha (CAT-A) from the 425th Civil Affairs Battalion, but with only eight Soldiers and two high-mobility multipurpose wheeled vehicles (HMMWVs), the CAT needed augmentation to meet the daytime three-vehicle requirement to move freely in the AO. The CAT did not deploy or train with 3-82 and arrived two weeks after the *Red Dragons* assumed responsibility for their AO.

In addition, the battalion had to work with a limited reconstruction budget consisting of funds from the commander's emergency response program (CERP). The unit's CERP budget was smaller than other battalions' budgets as the neighborhood's problems with water, sewage, schools and other areas of civil assessment were less urgent than the more problematic parts of the city where funds could produce a more dramatic IO effect.

***Red Dragons'* CMO Techniques.** The figure outlines five characteristics of CMO by the *Red Dragons* in Baghdad.

1. CMO—A Battalion-Wide Effort. FM 41-10 Civil Affairs TTPs describes CMO as a "set of unit operations which encompasses CA activities, PA activities, IO and other types of functions, including combat operations." Within that framework, certain CA activities encompass humanitarian assistance, reconstruction projects, local leader interface and governance support. Therefore, CMO is much more than CA—in itself, it is much more than reconstruction projects.

CMO must be—

1. Soldier-Executed
2. High-Volume
3. Vertical
4. Neighborhood-Centric
5. Synchronized

Red Dragon's Five Civil-Military Operations (CMO) Characteristics

Soldiers executing CMO must have a sense of civic pride in their area of responsibility (AOR) and attempt to foster that pride in their residents. Many units operate from a forward operating base (FOB) that is not near their AO. This makes it difficult for commanders to instill that level of civic responsibility in the troops.

Units should attempt to include all Soldiers in CMO. If everyday combat patrols make occasional stops at local school rehabilitation projects, routinely conduct atmospherics patrols at various roadside produce stands or deliver humanitarian assistance with the CAT, Soldiers begin to feel a connection to the area and the people who live there.

Soldiers will interact with the population everyday and contribute greatly to the unit's success if they understand the role and importance of CMO. Empowered Soldiers support CMO, determining problems and helping the unit develop possible solutions.

In the winter of 2003, the *Red Dragons* honed their combat skills during a 14-week pre-deployment train-up at Fort Hood, Texas. The proud Paladin Artillerymen of 3-82 FA focused training in their military occupational specialties (MOS) to ensure they could deliver timely and accurate fires in support of the *Blackjack* BCT.

Simultaneously, 3-82 FA leaders studied the demography of their future AO in Baghdad, kept abreast of Iraqi current events and became proficient in CMO tasks, such as using interpreters, developing cultural awareness and dealing with media.

This train-up is described in Lieutenant Colonel Timothy A. Vuono's article "3-82 FA Transformation into a Hybrid Motorized Rifle and Paladin Battalion: Training for Baghdad" in the January-February 2004 edition. The training imbued Soldiers with a CMO mindset and helped them understand the need to "be polite, be professional and be prepared to kill."

According to FM 41-10, the battalion S5 works in the battalion operations section (S3) and performs CMO planning and CAT integration as an addi-

Photo by CPT Evans Hanson

CPT Mike Burgoyne, Commander of A/3-82 FA, speaks at a ceremony marking the opening of the Al Faraqid Primary School in June 2004. Reopening the school was one of many CMO for the unit.

tional duty. However, the current table of organization and equipment (TOE) for FA and maneuver battalions does not authorize an S5. Commanders know the importance of CMO and resource its execution, but it helps to have a proactive S5.

3-82 FA's S5 helped give commanders the information and training tools needed to prepare troops for Baghdad during the pre-deployment train-up. He briefed at the command and staff meetings and ensured the S5 section had the assets it needed to operate, to include a CMO NCO, laptop computer, office equipment and HMMWV. Weeks later, when the unit received its attached CAT-A in Baghdad, the CMO team was already a part of the battalion.

Knowing the importance of CMO, battery commanders prepared to perform CA activities in support of the battalion mission. Each commander appointed a CMO lieutenant to participate in weekly neighborhood council meetings, track and update CA assessments in the battery AOs, and plan the CMO-specific tasks and purposes of each preplanned battery combat patrol. In effect, each battery became capable of performing CA activities of its own, including local governance (neighborhood council) support, area assessments, atmospherics patrols, small project development and supervision, management of the initial consequences of devastating AIF attacks and (or) MNF operations affecting the civilian population, and delivery of humanitarian assistance.

The *Red Dragons* tracked the effectiveness of MNF CMO and IO campaigns using atmospherics patrols. Atmospherics are civil situation indicators collected from civilians by patrols to meet specific civil-military information requirements.

Patrols collect them by asking selected civilians a series of questions developed by the battalion S5 and CAT. Examples include: What is the city's power schedule? What is the water pressure like? How effective are the Iraqi police in your neighborhood? Are grocery prices rising, falling or staying the same? How long do you have to wait in line for gasoline? What do you think about the reconstruction projects in your neighborhood? S2s and S5s at all echelons reported and analyzed atmospherics to help shape future operations.

Increased violence in the unit AO can make it difficult to perform CMO. AIF attacks and an increased emphasis on deliberate MNF combat operations can preempt CMO patrols, delay ongoing reconstruction projects and keep the battalion S5 in the TOC to help plan and execute battalion operations.

However, concern for CMO rarely falls by the wayside during these "surge" operations. The battalion S5 (or S2 in many units) continues to support fighting units with interpreters. The S5 also performs consequence management, passively collects intelligence and takes over the execution of the CMO tasks normally performed by batteries when not performing surge combat operations. These include project supervision and governance support.

2. High-Volume CMO. Battalion S5s should see it as their duty to make a positive and stabilizing impact on their AO in the limited time available. Projects are a visible way to create a lasting positive effect on the populace and can be exploited using IO in support of the mission.

3-82 FA developed a CMO campaign plan based on the commander's intent and current area assessments. From spring 2003 through January 2004, 4-1 FA, 1st Armored Division, and the supporting CAT-A from the 490th CA Battalion created a thorough assessment database of all key locations within AO *Red Dragon*, including schools, mosques, police stations, governance locations, banks, clinics and utilities. In October 2004, the Coalition Provisional Authority (CPA) estimated the *Red Dragons'* AO population exceeded 350,000, but Baghdad city administrators postulated it could be twice that number.

The initial task of the CAT was to verify and update the area assessment data and familiarize itself and the unit with the existing civil administration structure. This meant meeting with the local public works and regional electrical director-generals and other municipal officials.

The *Red Dragons* created the CMO campaign plan before deploying, based on the 1st Armored Division and, later, the 1st Cavalry Division commanders' guidance for CMO. This guidance boiled down to what was known as the sewer, water, electric and trash improvement plan, or "SWET." The S5 section then incorporated the commander's guidance, assessment data, the unique needs of the neighborhood and input from the local neighborhood and district advisory councils.

3-82 FA developed a dynamic campaign plan to create short-, medium- and long-term improvements to essential services and capabilities within the AO and quantified the focus along a timeline. The S5 section recommended priorities for each month and quarter.

For example, education improvement began in February 2004 as the most intense CMO effort and continued through the summer vacation period, culminating in an IO event at the beginning of the new school year in October. With education, the task was to rehabilitate all 63 public schools in the area during the summer to enable the Baghdad Karkh 1 School District to maintain the school system in the future.

It was a massive school reconstruction project campaign funded by a combination of CERP and rehabilitation funds from the US Agency for International Development (USAID). Our endstate was the successful handover of the management of education to the Iraqi Government, culminating in a district-wide town hall meeting with Ministry of Education representatives, local school headmasters, parents and Arab media.

Later, sewage system improvement became a battalion-level priority to preclude anticipated sewer backups during the onset of the rainy season in November. The battalion priorities shifted over time to respond to the specific neighborhood needs while meeting the brigade and division commanders' intent.

3-82 FA planned scores of reconstruction projects at one time. The steps of a project are relatively simple, involving a little paperwork and cooperation from a local Iraqi contractor. The unit creates a detailed statement of work (SOW) with a request for proposal (RFP) and releases it to local contractors so they can prepare estimates. The unit then selects the winning contractor, prepares the funding request paperwork, seeks and gains funding approval, prepares and signs a contract, and supervises the work.

The battalion S5 arranges final payment only after the contract is completed successfully and usually closes out the project with a ceremony, Arab media coverage or other IO event with the intent to give legitimacy to the Iraqi Government or council members involved.

Local contractors attended the weekly contractor meeting at the Mamu'n Tele-

communications Tower secured by battalion troops and Iraqi National Guardsmen. The battalion S5 and brigade CERP pay agents sometimes received more than 40 local contractors to release new RFPs, collect estimates, sign contracts, serve notices of deficiencies for ongoing work and (or) make progress payments for current or completed projects. The system proved successful, helping 3-82 FA manage up to 60 projects and activities at once.

The batteries and CAT supervised projects throughout the week with the assistance of a team of Iraqi engineers and inspectors. Providing feedback to contractors at the weekly meeting helped enforce high standards of engineering quality control while still meeting more than 90 percent of project completion timelines.

Project Tracker was one of the unit's most useful staff products. (See an example of the project tracker in the sidebar "The S5 NCO and CMO Project Management" by Staff Sergeant Thomas J. Kelly III on Page 43.)

Photo by CPT Evans Hanson

Anti-Iraqi forces (AIF) attacks can preempt CMO patrols, delay ongoing reconstruction projects and keep the battalion S5 in the tactical operations center (TOC) to help plan and execute battalion operations.

The S5 quickly can get swamped in hundreds of issues, ranging from contract disputes, substandard workmanship, property rights arguments, personal feuds, contractor corruption scandals and more. An effective project management system with detailed and easily accessible records multiplies the amount of projects one unit can handle at a time, injecting a degree of accountability and quality control into what could be a chaotic process.

The S5 should leave "no stone unturned" in the search for project funding sources. While the BCT and division staffs helped the *Red Dragons* with funding, 3-82 FA developed many fruitful personal relationships with USAID; reconstruction officials from the Iraqi Interim Government (IIG); foreign embassies, such as Japan and Spain; and non-governmental organizations (NGOs), such as JumpStart International and the United Iraqi Medical Society. Each endeavor had varying degrees of success but provided the longer-term benefit of bringing together diverse groups for a common purpose: the stability and security of a free Iraq.

3. Vertical CMO. The *Red Dragons* maintained a tactical command post (TAC) in the International Zone for several months, giving it the opportunity to liaise with officials in the CPA (later, the US Embassy) and Iraqi Government ministries. 3-82 FA worked together with the BCT S5 and division G5 to gain access to the right group for each issue faced.

By bringing Iraqi Government officials into the picture, the unit usually achieved a more lasting and appropriate solution to a problem and, eventually, passed responsibility for the work to the appropriate Iraqi agency. This technique brought opportunities to help develop and strengthen the applicable Iraqi agency to handle other issues for themselves in the future.

The *Red Dragons'* best example of vertical integration of CMO is the security of the Grand Mosque of Al Mansur in April 2004. The Grand Mosque was a partially completed Saddam Hussein presidential mosque the size of the Houston Astrodome in the center of Baghdad's prestigious Mansur neighborhood. After the fall of Baghdad in April 2003, Shiite Arab peoples from other parts of Baghdad and Iraq who were led by a group of influential Shiite religious scholars moved into the construction site by the hundreds.

A series of events followed, including sectarian accusations of theft and crime from local long-time residents, infiltrations of the normally peaceful Friday prayer calls at the construction site by supporters of the radical Muqtada al Sadr, and occasional verbal confrontations between officials from the Ministry of Housing and Construction and the religious scholar sheikhs at the site. The *Red Dragons'* main concerns were the security and safety of all area residents and enabling the Iraqi Government to forge a long-term solution of its own by deciding what to do with the partially constructed mosque.

3-82 FA helped initiate a broad CMO plan to ensure immediate and long-term security at the site. It included street-level humanitarian assistance (HA) delivered to residents of the construction site and the surrounding neighborhood, a CA assessment and listing of all 500 construction-site residents, the initiation of park rehabilitation projects nearby, meetings between the local commander and sheikhs at the mosque, and Arab media accompaniment on all patrols to supervise the project.

3-82 FA employed combat patrols and set up observation posts (OPs) at certain times to protect area residents from suspected AIF infiltrating from other parts of the city. CMO patrols, such as the one conducted by Lieutenant Balke, gathered information and intelligence to help plan these operations.

Simultaneously, the battalion commander and S5, with the help of the division G5's governance support team (GST), facilitated the first inter-ministerial working group since the CPA's creation. For the first time, the working group brought together representatives from the CPA, US State Department and four separate Iraqi ministries to set the conditions for immediate security and the eventual Iraqi Government-sponsored long-term solution.

All parties agreed to a combined presence of Iraqi Facilities Protective Service (FPS) and periodic 3-82 FA patrols and observation at the Grand Mosque to stabilize the volatile situation until the Ministry of Housing and Construction could enter the premises and remove the government-owned construction equipment. With interaction between all parties from the street to the national level, the *Red Dragons* were able to affect short-term security and long-term development in what could have become a hotbed of violence in Mansur.

4. Focus on Iraq: Be an Important

Part of Your Neighborhood. Local national interpreters do much to connect Soldiers with Iraqis in their AO. The 3-82 FA S5 managed up to 45 interpreters for the battalion who were hired by Titan Corporation, a defense contractor in Iraq. Each battery scheduled and cared for its own four to seven interpreters.

These brave men and women became a part of the unit with which they worked and served alongside troops on all missions. They were enormous assets to the battalion and performed many tasks: atmospherics collection, Arabic language training, interrogation, intelligence collection and daily interpretation. As the platoon sergeant for the interpreters, the S5 NCO ensured the interpreters were well cared for, paid and equipped.

Another important technique 3-82 FA used to become intimate with their neighborhoods was to constantly update and renew their area assessments. The CAT, S5 and each CMO lieutenant at the battery level carried a 10-page packet with the eight-digit grids, names, phone numbers and other information on all important locations and individuals in the area. Verifying this information in the first few weeks of operations helped the unit become familiar with the area. Carrying the information with them on patrols over the next several months enabled leaders to maintain this intimacy and react intelligently to most situations.

In August 2004, a vehicle-borne improvised explosive device (VBIED) detonated near the IIG minister's villa compound in the neighborhood of Qadisiyah in the *Red Dragon* AO. Initial reports came to the battalion TOC from security elements near the compound as well as via cellular telephone calls from locals at the Patriotic Union of Kurdistan (PUK) building near the attack.

The S5 and local battery commander contacted representatives from the Iraqi police station, public works directorate and local hospital to evacuate the wounded, restore power, clean up the site and repair the road to restore traffic flow in a matter of hours instead of days or weeks. The rapid resolution of this event and subsequent CMO, PA and IO victories for the residents of Qadisiyah were possible mainly because of the highly developed personal relationships between the *Red Dragons* and Iraqi Government and medical leaders who were just a phone call away.

In October 2004, the *Red Dragons* worked with officials from the Ministry of Education to hold Mansur's first education town hall meeting at a local community center. 3-82 FA and USAID had rehabilitated all but two public schools in the area during the summer and were eager to prepare the local school district director-general to assume the bulk of the responsibility for future improvements to education. 3-82 FA used a series of meetings between the MNF-supported district council and the established, but fragile, education ministry to get the ministry officials up to speed on the progress in their schools and to propose a realistic plan for the future. The presence of the CAT and representatives from USAID helped legitimize the fledgling district council.

Shortly thereafter, the district council and Ministry of Education held their own town hall meeting with hundreds of local headmasters and parents. *Red Dragons* worked with the local Iraqi police to provide security and invited Arab media to the event. At the end of the day, the Ministry of Education and district council had assumed a new level of responsibility for the public school system in Mansur, were able to publicize the significant improvements made during the summer, became accountable to parents and residents for continued progress in education, and were prepared to continue improvements in education with their new partner, USAID, without day-to-day direction from the *Red Dragons*.

5. Synchronize CMO. 3-82 FA held an internal weekly CMO meeting in the battalion conference room. Each battery sent its CMO lieutenant to meet with the battalion S5, CAT and the battalion public affairs office (PAO), IO and intelligence exploitation (S2X) officers. Attendees updated assessment data and discussed issues and the status of reconstruction projects. Participants also shared information and developed solutions to other issues ranging from interpreter assignments and pay to sewer, water or trash service problems in the AO.

The most important part of the meeting was the synchronization roundtable. The S5 developed and briefed a tentative plan for the week. During the roundtable, attendees finalized the week's plan by arranging joint battery-CAT patrols, developing specific CMO-related tasks and purposes for selected battery combat patrols, developing passive intelligence and atmospherics reporting requirements for the week, determining exactly which operations would receive Arab or western media representatives and more. The battalion CMO/IO calendar encoded this information on a single page, making it visible for all battalion staff and commanders for three weeks out. The battalion S3 then revised the CMO/IO plan to synchronize it with combat operations and psychological operations (PSYOP).

Photo by CPT Evans Hanson

SSG Anthony Falcone, Civil Affairs Team Sergeant, talks with an Iraqi woman and her children about CMO projects in her neighborhood.

Lessons Learned. Iraq is a dynamic and ever-changing environment. Lessons learned today may not apply to the problems of tomorrow. However, during 3-82 FA's year-long CMO experience, several lessons may prove useful to units operating in Iraq today and in the future.

• *Provide a common CMO assessment product.* The assessment data 3-82 FA collected on a master file proved to be a useful tool. Soldiers on patrol must be able to tell that the assessment of, say, "their clinic" among the "14 clinics" in the AO is still valid. To ensure that the unit assesses every inch of ground

and speaks to every Iraqi possible, the S5 can draw a cartoon map like those commonly sold in tourist cities, not necessarily to scale, but showing important locations and information in an easy-to-read format. It can be hand-drawn on a large piece of paper posted on the wall of the TOC or CMO center (CMOC).

If a patrol from B Battery speaks with the owner of a produce stand near the gas station, the patrol leader can describe it to the S5 who can draw its caricature on the map with basic information about the location and the people who work there. The amount of helpful information that could be attained using this method is unlimited, easily understood by all and helpful in solving the "puzzle" of Iraq.

Furthermore, this information can be fed into the S2's all-source analysis system (ASAS) database via contact reports submitted after each mission.

• *Add interpreter training to the pre-deployment train-up.* Soldiers should use specific techniques to maximize the effectiveness of their communications when using interpreters. The language barrier may be formidable, but it is not insurmountable. With our cursory leader training on working with interpreters in November 2003, many Soldiers failed to communicate effectively.

Learning to use an interpreter properly not only helps the Soldier be understood, but also fosters good relations with the people in the community. Soldiers will appreciate the immense value local national interpreters offer the unit. By establishing relationships with interpreters, the battalion can better understand the cultural landscape of the AO.

• *Seek CA training for S5s and battery CMO lieutenants.* Before deploying, S5 personnel attended 40 hours of training by CA officers from the John F. Kennedy Special Warfare Center sent to Fort Hood from Fort Bragg, North Carolina. The S5 is not the only Soldier who performs CMO tasks. CA training of any kind for battery-level leaders will benefit the unit greatly.

During their 10 months in central Baghdad, the *Red Dragons* worked with Iraqis and used CMO to make remarkable and lasting progress in their AO. 3-82 FA, together with the Mansur District Council, subordinate neighborhood councils and many local leaders and officials, forged the potential for a bright and prosperous future in an important and influential area of Baghdad.

Captain Evans A. Hanson is the Civil Military Operations (CMO) Officer (S5) for 3d Battalion, 82d Field Artillery (3-82 FA), 1st Cavalry Division, Fort Hood, Texas. From January 2004 until February 2005, he was deployed in support of Operation Iraqi Freedom II. He served as an Assistant Operations Officer during the pre-deployment train-up. Previously, he was the Executive Officer, Paladin Platoon Leader and Battery Fire Direction Officer in B/3-82 FA and Fire Support Officer for D/1-8 Cav.

The S5 NCO and CMO Project Management

In the dynamic environment of Operation Iraqi Freedom (OIF), the duties of the civil military operations (CMO) NCO vary greatly from unit to unit and from day to day. As the assistant to the CMO officer (S5) for the *Red Dragons* 3d Battalion, 82d Field Artillery (3-82 FA), 1st Cavalry Division, in Baghdad during OIF I and II, my most important duty was project management.

The *Red Dragons* employed a unique, yet simple, reconstruction project management system with four components: the Project Tracker, project filing and records system, contract supervision and contractor meetings.

This article explains how the project management system multiplied the battalion's efforts and enabled 3-82 FA to manage up to 60 reconstruction and civil affairs (CA) activities simultaneously while maintaining one of the highest quality standards and successful on-time completion rates in the 1st Cavalry Division.

Project Tracker. The Project Tracker is a spreadsheet the S5 produces, updates and distributes periodically. (See the figure). The tracker includes all projects in the unit area of operations (AO), including those funded by the commander's emergency response program (CERP) or other programs funded by non-governmental organizations (NGOs) and governmental organizations (GOs), such as the US Agency for International Development (USAID) and the Iraqi Government.

The document tracks all reconstruction projects from conception through completion, giving commanders the situational awareness they need to keep their Iraqi counterparts informed of the projects' progress and make project decisions based on mission priorities, funding availability and community impact.

Project Recording and Filing. At the conception of the project, the S5 NCO initially is the project manager and assigns it a tracking number. He files all documents pertaining to that project in its corresponding numbered file.

This system organizes the unit's CMO and makes it possible for one unit to conduct scores of simultaneous projects without confusion. The system consists of a filing box or cabinet of whatever size is available. The project manager enters files by project tracking numbers in numerical sequence with one hanging file for each project. Some projects have multiple contractors or phases, so there may be several file folders in the same hanging file with alphanumeric tracking numbers (i.e., 21a, 21b, 21c, etc.). The S5 NCO should check the files daily to ensure that documents generated or received for each project are filed quickly and accurately.

Normally, each project file contains a statement of work (SOW) with a request for proposal (RFP), price estimates or bills of quantities from contractors, digital photos, a contractor selection memo, the funding request document, the project contract, in-progress inspection reports and pay receipts.

Each project begins with a SOW that clearly describes what the contractor must perform during the project. The RFP includes the SOW and provides detailed instructions and requirements to contractors who wish to compete in an open bid for the job, such as timelines, pricing limitations and an estimate submission deadline.

Any element of the battalion can prepare a SOW and RFP. Usually, however, the S5 obtains RFPs from the battery commanders and CA team, who initiate and supervise the reconstruction projects as part of their ongoing CMO.

After receiving estimates from local contractors, the S5 and commanders

compare them based on the unit's contractor selection criteria in an open free bid. Some factors of contractor selection include price competitiveness, source of labor pool, ability to meet timeline requirements, etc.

Similar to a course of action (COA) decision matrix used by staffs during the military decision-making process (MDMP), the contractor selection memo explains why the unit selects a particular contractor. After the project funding is approved (CERP projects usually are approved by brigade commanders or higher), the project manager writes the contract by combining the RFP, the contractor's estimate, SOW and timeline requirements.

Project Supervision. After the contract is signed and while the project is in progress, battalion Soldiers supervise the work. Digital photos are a critical requirement for every stage of the process.

Units must ensure that the S5 and battery commanders have access to digital cameras so that proper records exist for each project. Project photos should be labeled clearly and kept on file with the S5.

The S5 issues notices of deficiency to contractors when inspecting units or members of the local neighborhood councils discover substandard work or conduct. These also should be in the appropriate project files.

Receipts are critical in keeping track of money paid incrementally for work already completed (i.e., 20 percent, 40 percent, 60 percent). Units should *never* pay in advance for work not yet performed and *never* make final payment until the contractor corrects all deficiencies.

Contractor Meetings These meetings are to evaluate the projects' progress, issue deficiency notices, pay contractors, notify contractors of new RFPs and collect estimates from last weeks' RFPs. With more than 50 local contractors all seeking work at each meeting, it can be a nightmare. Yet, with planning and preparation, the event can be relatively painless.

The S5 NCO contacts the local contractors and provides them a secure, accessible location and predictable time for a weekly meeting. He coordinates with the brigade paying agent for the meeting time and location.

Using the Project Tracker, the project manager prepares the pay receipts and deficiency notices for each current project the evening before the meeting. Numbered cards or tickets keep contractors in queue in the order in which they arrive while they wait to speak with the S5 and the brigade paying agent. The S5 NCO allows contractors into a private room to speak with the S5 one at a time. The S5 works with each contractor, depending on his contract activities or actions related to RFPs. These meetings often are a good source of atmospherics assessments and intelligence.

Once the meeting is complete, the S5 NCO immediately sorts the new estimates by project and checks and returns all files to the filing cabinet. The S5 updates the Project Tracker to distribute to and update commanders on the week's progress.

Some recommended supplies for project managers include a laptop computer, filing cabinet, digital camera, copier/printer/scanner and portable USB disk drives. For examples of products 3-82 FA used to conduct project management that were later adopted as the 1st Cavalry Division standard, please refer to the "Civil Military Operations" folder on the 1st Cavalry Division secure knowledge-sharing network at http://www.1cd.army.smil.mil.

During their 10-month tour in central Baghdad, the *Red Dragons* used this simple system to manage overlapping projects and multiply CMO effectiveness in support of a stable and prosperous Iraq.

SSG Thomas J. Kelly III
S5 NCO, 3-82 FA
1st Cav Div, Baghdad

Index No.	Neighborhood	Civil-Military Task	Project and Location	Fund Source	Amount	Activity	Remarks	Actions	Contractor and Phone No.	Balance Remaining
Awaiting Closeout Procedures										
165	Mansur	Community	Mansur Basketball Court	Battalion CERP	$17,450	HSB	100% complete. Contract signed 16 Sep. Final payment made 7 Nov.	Need to schedule opening ceremony	Hakim Hasson 7901576980	$0
Recently Completed Projects (Since Last Targeting Meeting)										
255	Qadisiyah	Security	IIG Compound Phase II	US Embassy	$98,050	A Btry	100% complete. Contract signed 12 Oct. Final payment made 12 Nov.	Complete	Ali Rasheed 7901672801	$0
Current Working Projects										
270	Hateen	Services	Hateen Fire Station Refurbishment	Battalion CERP	$13,000	C Btry	5% complete. Contract signed 4 Nov.	First payment arranged: $5,000	Emad Chalabi 7901312580	$13,000
310	3-82 AOR	Trash	Mansur Fall Cleanup	Brigade CERP	$34,000	S5	50% complete. Contract signed 28 Oct.	First payment arranged: $15,000	Faid Ismael 7901227940	$34,000
169	Yarmuk	Public Health	Karkh Medical Center Rehabilitation	Division CERP	$290,080	Civil Affairs	50% complete. Contract signed 23 Sep. Second payment made 7 Nov.	Final payment arranged: $60,080	Bayat Group 7901435560	$60,080

Legend: **AOR** = Area of Responsibility; **Btry** = Battery; **CERP** = Commander's Emergency Response Program; **HSB** = Headquarters Service Battery; **IIG** = Iraqi Interim Government

Civil-Military Operations (CMO) Project Tracker. This document often grew to more than 10 pages. It also includes "Current Working Projects with an External Funding Source" and "Projects Awaiting Approval and (or) Funding."

The **USS Bulkeley**, a Norfolk, Virginia-based Arleigh Burke Class guided missile destroyer participated in the Global War on Terrorism in the Arabian Gulf.
(US Navy photo by Photographers Mate First Class PH1 Brien Aho)

Naval Fire Control System

By Master Sergeant (Retired)
Gregory T. Kollar, USMC

NFCS is becoming the Navy's key system to manage surface fires in littoral warfare. NFCS, technically the AN/SYQ-27, is bringing Navy surface combatants into the digital fires arena, enabling the concepts of the Marine Corps Operational Maneuver From the Sea (OMFS) and Ship-to-Objective Maneuver (STOM). These concepts are setting the standard for the naval combatant operations. They also are leading the way for buying advanced technologies to depict battlespace three dimensionally and develop a common operational picture (COP). The NFCS provides this COP while interfacing with the advanced FA tactical data system (AFATDS), among other systems. (See the figure.)

Currently the US Navy Amphibious Fleet is redesigning the supporting arms coordination center (SACC) to incorporate NFCS and AFATDS as the fires management system and the command and control personal computer (C^2PC) for decision making, providing a unified and coordinated command center with links to all other naval warfare components. This displays the COP and streamlines the decision-making process. Likewise, the Naval Surface Combatant Fleet has NFCS hardware and software that enables the ship commander to become an integrated member of this digitally defined three-dimensional battlespace.

NFCS is a variable message format-(VMF)-based system that manages naval fires for Arleigh Burke Class destroyers equipped with the MK-160 gun weapon system (GWS) using the 5-inch, 62-caliber gun. NFCS also works in concert with the Aegis combat system, enabling the addition of land-based targets to the COP.

NFCS is a two-monitor system that uses existing Tomahawk display equipment. The NFCS operator views the tactical picture on the upper monitor and the NFCS user interface on the lower monitor.

NFCS also supports the display of National Geospatial-Intelligence Agency (NGA) digital mapping products. It develops the COP through multiple channels: surface and air tracks from the global command and control system-marine (GCCS-M), air tasking order (ATO) and air control order (ACO) from the Air Force theater battle management core system (TBMCS) and land tracks via the interface with AFATDS or directly from digitally equipped stations.

NFCS receives and processes calls-for-fire (CFFs) and orders to fire (OTFs) from all current Marine Corps fire support systems (MCFSS) fielded. Using NFCS decreases mission response times from 2.5 minutes for the first round shot to 30 to 45 seconds. Deconfliction for naval surface fire support (NSFS) requires assessing all environments (air, land and sea) before firing a weapon. Normally command information center (CIC) personnel deconflict each warfare environment to ensure that firing an NSFS weapon will not conflict with other air or surface assets being employed.

NFCS not only deconflicts all environments, but also alerts the operator and displays a three-dimensional view of the conflicting item. The NFCS operator can manipulate the view to better understand the situation before requesting re-coordination or denying the mission.

Tomahawk fire control personnel operate NFCS; being dual-hatted, the sailors must be proficient in both naval strike and littoral warfare duties.

NFCS is compatible with the current suite of equipment fielded to both the Marines and Army.

NFCS training is a three-week course that trains operators in the tactical operation and detailed maintenance of the system. This Land Attack Warfare Officers Course is one-week and focuses on integrating Navy littoral warfare into current operations.

The Naval Surface Warfare Command (NSWC), Dahlgren Division, in Dahlgren, Virginia, is developing NFCS under the sponsorship of the Program Executive Office for Integrated Warfare Systems in Washington, DC.

Master Sergeant (Retired) Gregory T. Kollar, USMC, is a Land Attack Warfare Analyst serving as a Naval Fire Control System Instructor at the Naval Surface Warfare Center, Dahlgren Division, Dahlgren, Virginia. He is employed with BAE Systems. In his last military assignment, he was the Senior Instructor for Marine Corps Fire Support Systems at the Marine Corps Detachment, Fort Sill, Oklahoma, from 1996 to 2000 when he retired. Among other assignments, Master Sergeant Kollar was the Battalion Operations Chief for the 1st Battalion, 14th Marines, at Alameta, California. He also has worked with the 10th, 11th and 12th Marines.

FSCM	Stores and displays all permissive and restrictive measures; provides a three-dimensional view of deconfliction problems for operator resolution; and complies with **FM 101-5 Operational Terms and Symbols** (MIL-STD-2525B graphics).
ATO/ACO	Receives ATO/ACO from TBMCS; and parses, displays and deconflicts against all current geometries.
Met Messages	Receives Met data over VMF channels or through the GCCS-M interface and stores and processes the Met data.
Weapons Inventory	Manages all 5-inch projectiles, accounting for the magazine, NSFS allocated amounts, critical and warning levels, and decrements of weapons used during other warfare.
Observers/ Friendly Units	Stores and displays up to 100 friendly units and complies with FM 101-5 (MIL-STD-2525B graphics).
Targets	Stores up to 5,000 targets and an unlimited target list (has no targeting capability).
Fire Missions	Stores and manages 60 active missions; the GWS may store up to 20 active missions but fires one mission at a time.
Fire Plans	Develops and stores 10 fire plans, each covering a timeframe of 480 minutes.
Communications	Is VHF/HF/SATCOMS/ADNS LAN-capable and supports 100 TACLINK subscribers and unlimited ADNS LAN subscribers.
Command Data	Stores directives and ship instructions and processes them against decision-making algorithms; allows the operator to automate multiple decision points based on the current engagement.
System Monitoring	Continuously monitors and displays the status of the NFCS rack, GWS, GCCS-M and ADNS servers.
Embedded Training	Supports standalone or team training; supports developing training scripts for use in either training mode; and, in the training mode, maintains live GCCC-M, simulates 100 stations and supports VMF or TACFIRE devices.

Legend:

ACO = Air Control Order
ADNS = Automated Digital Networking System
ATO = Air Tasking Order
GCCS-M = Global Command and Control System-Marine
GWS = Gun Weapon System
HF = High Frequency
FSCM = Fire Support Coordination Measures
LAN = Local Area Network
Met = Meteorological
NSFS = Naval Surface Fire Support
SATCOMS= Satellite Communications
TACFIRE = Tactical Fire Direction System
TACLINK = Tactical Communications Link
TBMCS = Theater Battle Management Core System
VHF = Variable High Frequency
VMF = Variable Message Format

Naval Fire Control System (NFCS) Capabilities

Field Artillery
(USPS 309-010)
P.O. Box 33311
Fort Sill, OK 73503-0311

Periodicals Postage
PAID
Capitol Heights, MD

May-June:

Interview with BG Richard P. Formica, Commander of the JFEC, MultiNational Corps, Iraq

Election Duty

SGT Raul Batalla, C/2-82 FA, 1st Cavalry Division, kneels after hearing gun shots near the voting polls in Baghdad on 30 January 2005. C/2-82 FA helped provide an environment in which Iraqis could conduct elections without interference.

US Air Force photo by SrA Lapedra P. Tolson

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