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Field Artillery

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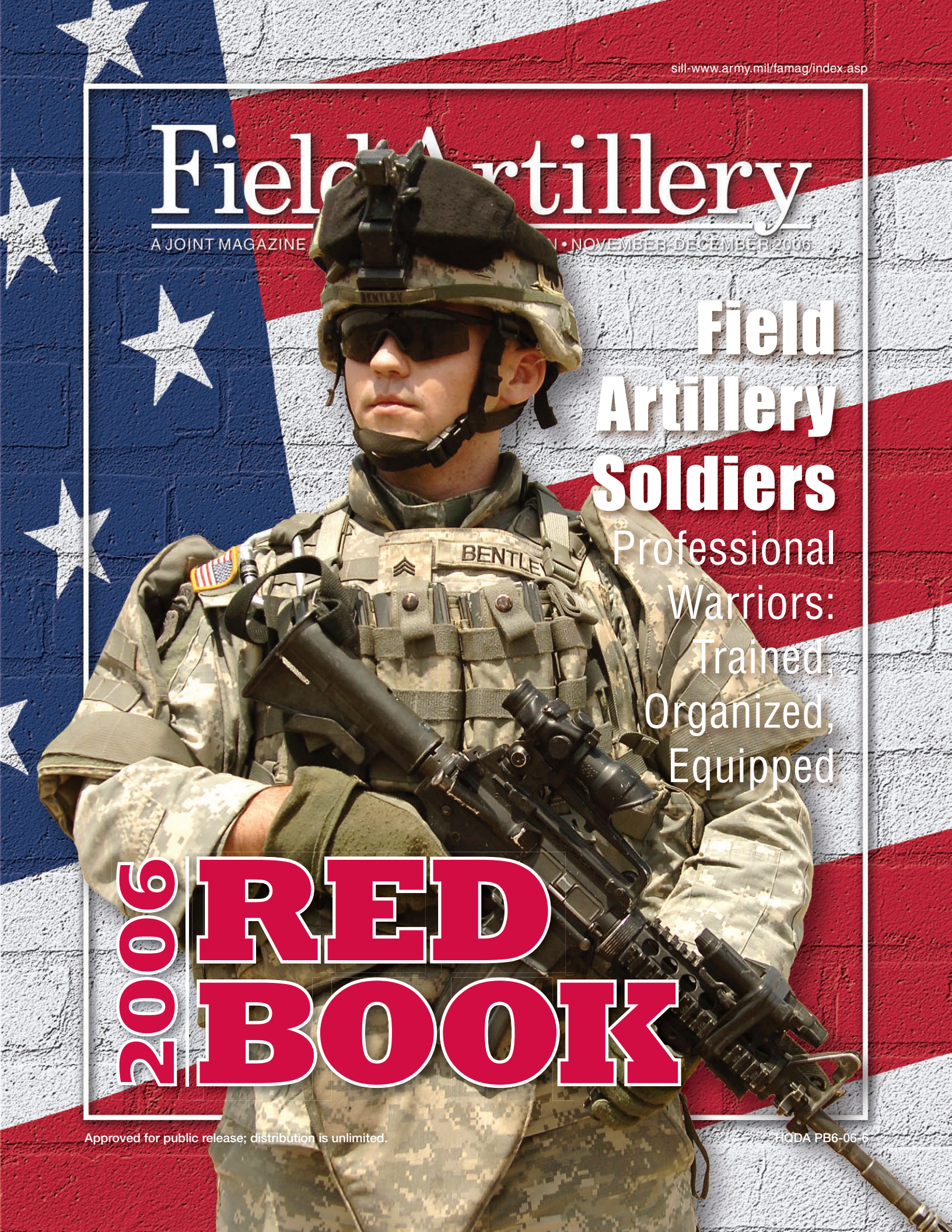

Field Artillery Soldiers

Professional Warriors: Trained, Organized, Equipped

2006 RED BOOK

HQDA PB6-06-6

Field Artillery

A JOINT MAGAZINE FOR US FIELD ARTILLERYMEN • SINCE 1911

November-December 2006 HQDA PB6-06-6

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Front Cover: Army Sergeant Bryan L. Bentley patrols near the Ali Al Azeem Mosque in East Baghdad, Iraq, 11 August 2006. Sergeant Bentley is in the 4th Battalion, 320th Field Artillery (4-320 FA), 506th Regimental Combat Team, 101st Airborne Division (Air Assault). (US Navy photo by Mass Communications Specialist 1st Class Keith W. DeVinney, Combat Camera Group Pacific, Forward Operating Base Loyalty, Baghdad, Iraq)

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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SGT Bryan L. Bentley, 4th-320th FA, patrols near the Ali Al Azeem Mosque in East Baghdad, Iraq. (US Navy Photo by Mass Communication Specialist 1st Class Keith W. DeVinney)

2006 State of the Field Artillery

By Major General David C. Ralston

Recently, while trying to determine what I wanted to talk about in this year's State of the Field Artillery article, I thought about the events of the past and reviewed some of the articles written by my predecessors. Many things have changed in our branch over the past few years, but a lot has remained the same. We've transformed our branch, and we're still deeply committed to supporting the maneuver commander. That is evident in all our efforts in our units, our school and our futures development—especially precision-guided munitions (PGMs).

Indeed, we remain on azimuth. We remain professional Field Artillery Soldiers and leaders instilled with the warrior ethos and optimally trained, organized and equipped to accomplish our mission. Although our mission statement has evolved somewhat over the years to incorporate joint and nonlethal assets, the fundamentals remain the same. Our mission is to support Army and joint commanders with cannon, rocket and missile fires and coordinate and integrate all their joint lethal and nonlethal fire support assets across the full range of military operations. Our great FA leaders and Soldiers are accomplishing this mission in Afghanistan and Iraq today.

FA Timeliness and Accuracy. In the lethal arena, we have performed *superbly*—making tremendous improvements in both our timeliness and accuracy. Or, perhaps, we just were given the opportunity to do what simulations at our combat training centers (CTCs) couldn't replicate properly.

We've demonstrated our ability to be accurate. With both the guided multiple-launch rocket system-unitary

(GMLRS-U) and Army tactical missile system-unitary (ATACMS-U), we've demonstrated our superb accuracy time and time again. As you know, our Marine brethren have nicknamed GMLRS-U their "70-kilometer sniper rifle." I am impressed with our cannon accuracy as well, and Excalibur and the precision guidance kit (PGK) will give us even greater accuracy.

But I must stress that our accuracy with munitions is only as accurate as our total system of systems. We must have precision targeting enabled by technologies to use our PGMs effectively, technologies such as the precision strike suite-Special Operating Force (PSS-SOF) software. We must continue to push for precision in all the requirements for accurate predicted fire.

Our forward observer software (FOS) has incorporated PSS-SOF to provide the precision capability our observers need to engage targets with PGMs, such as GMLRS-U, Excalibur and the Air Force's joint direct attack munitions (JDAMs).

FOS also is expanding its capability so any laptop computer can run it. It will have the latest mapping engine and the ability to interface with force XXI battle command brigade and below (FBCB^2) and (or) blue force tracker (BFT) to conduct a friendly unit check.

FA Nonlethal Assets. When faced with new situations in the nonlethal arena, Field Artillerymen have shown superb leadership. Just as we always have done, we have taken charge: coordinating and integrating nonlethal assets for the commander. Artillerymen never hesitate to coordinate all assets: electronic warfare (EW), information operations (IO), psychological operations (PSYOP) and civil-military operations (CMO).

I have been told on more than one occasion that Artillerymen make some of the best forward operating base (FOB) commanders. While our branch has the same quality officers that other branches have, we have an advantage. We spend our careers integrating everything available to the commander. As a group, we're good at it, and we easily can adapt our skills to any situation.

FA Organization. Of course, our units are organized differently today than they were just a short time ago. We are implementing the biggest organizational change in our branch since World War II by making our Artillery battalions organic to the brigade combat teams (BCTs) and giving them capabilities formerly resident at the division level, such as the ability to generate meteorological (Met) data.

Photo by SPC Teddy Wade, 55th Combat Camera, 3rd Place, Combat, 2007 *Field Artillery* Photo Contest

1LT Graham Genrich, B Battery, 3rd Battalion, 320th Airborne Field Artillery Regiment (3-320 AFAR), 101st Airborne Division, secures the perimeter during a patrol in Osha City, Tikrit, Iraq, 27 April 2006. Perhaps the biggest change for the FA has been the opportunity to execute non-FA missions.

Although we're organized differently today, we still are committed to providing timely and accurate fires in support of the maneuver commander. So far, 18 battalions in the active component (AC) and six in the Army Reserve National Guard (ARNG) have converted to fires battalions. This year, an additional 19 AC and 23 ARNG FA battalions will transform into fires battalions. The 75th and 214th FA Brigades at Fort Sill, Oklahoma, in the AC have become the second and third units to convert to fires brigades, and the 142nd FA Brigade in the Arkansas ARNG converted into a fires brigade in September. By the end of FY08, we will complete the transformation of Artillery units to the modular design.

The most recent change we've enacted is the division fire support coordinator (FSCOORD) is an O6 again. This seasoned Field Artilleryman will provide advice, guidance and direction on training and readiness to his fires battalion commander while working with his BCT commander.

The latest news is that FA colonels will be able to compete for BCT commands, starting with the FY08 command board. This will expand branch opportunities to command at the colonel level and, correspondingly, broaden our chances for more FA officers to be selected for brigadier general.

FA Missions. Perhaps the biggest change for our branch has been the opportunity to execute non-FA missions. We have done it all. Our units have executed maneuver battalion and task force missions at our training centers and in theater. We have acted as Infantrymen, Military Policemen and transporters and conducted hurricane disaster relief. We've accepted every mission, trained to a high level and then deployed and executed those missions.

I commend each and every member of the Artillery for his commitment to our Army and the myriad of missions we've been given. They all have demonstrated the FA's worth to our Army and nation.

We must be careful, however, to maintain our proficiency in our main mission. Upon redeploying from a nonstandard FA mission, units must reset just like all other units, but they also must concentrate on recertifying their Soldiers and units as Artillery. If we're not careful, we could end up with a generation of FA Soldiers who lack proficiency and experience in providing fire support to the ground commander. We must maintain and hone FA core competencies to preserve the reputation of our branch.

Precision-Guided Munitions. PGMs are a big change for us. Years of planning and development have finally "paid off." As I stated in my last column, the Army's

Artillery PGMs are a great complement to Air Force precision munitions.

The ground commander now has additional options from which to choose: GMLRS-U and ATACMS-U. As a result of GMLRS-U's phenomenal success, it quickly has become the precision weapon of choice in theater. When fielded, Excalibur, PGK and the non-line-of-sight launch system (NLOS-LS) will provide the commander even more options.

We remain on track in all these areas and will continue to be challenged as we update our doctrine and tactics, techniques and procedures (TTPs) to exploit these weapons' capabilities fully on the battlefield.

The Excalibur program has continued to push forward in an effort to accelerate fielding the round into Soldiers' hands in theater. During July and August 06, Excalibur successfully engaged test targets with live high-explosive (HE) warheads. In preparation for future use, we have refined TTPs and technical bulletins and entered into the safety testing required for final release to the field.

Excalibur has begun a series of sequential environmental tests for safety designed to show how the round holds up under extreme heat and cold conditions, vibration and high pressure firings. To date, all of these tests have been successful. We're confident we'll get a reliable munition to theater in the near future. Used in conjunction with precision targeting tools, such as PSS-SOF, Excalibur can bring even more to the fight.

Future cannon platforms will see increased automation and digitization. The M777A2 howitzer is leading the way for US towed artillery in this area. However, more than 800 M119A2s are projected to be in the force by 2012 and will require some form of digitization for increased accuracy and the ability to fire PGMs.

Fort Sill Training. While Snow Hall and our FA Training Center (FATC) at Fort Sill might look the same from the outside, our school has been and still is undergoing some major changes. From an organizational view, our 30th Regiment still has three battalions: an officer training battalion, 1st Battalion, 30th FA (1-30 FA); an advanced individual training (AIT) battalion, 1-78 FA; and a fire support and logistics battalion, 2-2 FA.

In our FATC, we soon will have three basic training battalions (1-19 FA, 1-40 FA and 1-79 FA) and a Military Occupational Specialty (MOS) 13B Cannon Crewmember AIT and training support battalion (1-22 FA). FATC continues to train all Soldiers on the 40 warrior tasks and 11 battle drills and provides a sound base of Soldier and Artillery AIT skills to prepare them for the wide range of missions FA units now receive.

Although we teach the same basic principles of Artillery, we're working to improve our training. We started with officer training and the FA Captain's Career Course. As detailed in July-August edition of this magazine, we rapidly redesigned this course, using students who recently returned from theater to upgrade the instruction and integrate counterinsurgency instruction into the training.

Now we're using that model to transform the remainder of our officer training as well as our warrant officer and NCO courses. Our NCO Academy has transformed about 75 percent of its instruction and will complete the transformation by the end of this year.

In our spare time, we're planning for the arrival of the Air Defense Artillery (ADA) School from Fort Bliss, Texas, as well. We stood up the virtual Fires Center of Excellence (COE) on 1 June, and we continue to work hand-in-hand with our ADA colleagues to complete the Base Realignment and Closure (BRAC)-directed changes.

Among the most notable of the changes in our school has been the addition of the Joint and Combined Integration (JACI) Directorate in 2004. Since its inception, JACI has devoted itself to formalizing our joint training and relationships. It continues to educate and train our Soldiers, Sailors, Airmen, Marines and leaders to leverage the full spectrum of joint fires and to work toward joint fires interdependency.

JACI now conducts a two-week Joint Fires Observer Course (JFOC) to produce JFOs: trained service members who can request, adjust and control surface-to-surface fires, provide targeting information in support of Types 2 and 3 close air support (CAS) terminal attack controls and perform autonomous terminal guidance operations (TGO).

In JACI's two-week Joint Fires and Effects Course (JOFEC), we're teaching joint leaders the skills and knowledge required to plan, synchronize and execute joint fires and effects (lethal and nonlethal) in support of the joint force commander.

Another big change is that the FA now is involved formally in IO and EW. We are now the Army's "expert" in tactical IO and operational EW.

The FA School continues to analyze and refine the Tactical IO Course (TIOC). This three-week course continues to educate NCOs and officers to perform as members of an IO cell at the brigade level and below. We currently are planning to train approximately 100 personnel in FY07, beginning in November with 30 slots per class. The refinements will bring the latest IO TTPs from Central

Photo by Fred W. Baker III, *Field Artillery*

A student at the Joint Fires Observer Course (JFOC) at Fort Sill, plots targets on a map while an Air Force pilot sites the targets on the large screen overhead. The two-week JFOC produces JFOs who can request, adjust and control surface-to-surface fires, provide targeting information in support of Types 2 and 3 close air support (CAS) terminal attack controls and perform autonomous terminal guidance operations (TGO).

Command (CENTCOM) and integrate them into the lesson plans.

Each student will gain a working knowledge of tactical IO, the IO core and supporting elements, and IO integration into both the military decision-making process (MDMP) and targeting process. Finally, the IO course graduate will be able to establish, plan, integrate, monitor and assess IO within the BCT, division and corps IO cells. For more information on this course and future course dates, contact Major Erin McDaniel at erin.mcdaniel@us.army.mil or DSN 639-1668 or commercial (580) 442-1668.

A critical addition to the school's mission is a new EW course. The Army Operational EW Course will train future EW officers (EWOs) to plan, integrate, synchronize and execute EW according to their commanders' schemes of maneuver. In October 2006, we began training joint force personnel at Fort Sill to either perform duties as, or in support of, EWOs in units deploying in the Global War on Terrorism (GWOT), now called the War on Terrorism (WOT).

The intent is to train the EWO to advise the commander on all Army, joint, interagency, intergovernmental and multinational EW capabilities. Additionally, the EWO will be able to establish, plan, integrate, monitor and assess EW operations of the BCT, division and corps EW cells. This eight-week course is the first step in a new direction for Fort Sill as the Army's designated lead for electronic attack (EA). For more information on this course and the emergence of EA at Fort Sill, contact Major John Frisbie at john.frisbie1@us.army.mil or DSN 639-3427 or (580) 442-3427.

Laser Designators. Our sensors have evolved as technology has improved. For more than 30 years, there has been a requirement to provide laser-guided technology to our military force. The initial laser designators were non-eye-safe lasers developed in the early 70s to aid in the delivery of munitions, such as Hellfire and Copperhead. The Army developed the ground/vehicular laser locator designator (G/VLLD) that uses a high-powered laser designator that is not eye-safe, is bulky and is quite heavy.

The need for lighter, eye-safe lasers and designators led to the development of the requirements document for the lightweight laser designator rangefinder (LLDR) for the FA branch and the continued pursuit of lighter, stronger lasers for the handheld community. Armor branch developed the long-range advanced scout surveillance system (LRAS^3) for its scouts in the early 2000 era, and we adopted it with modifications as our mounted sensor of choice. We added the laser designator module from the LLDR and called it the fire support sensor system (FS^3). It fits perfectly into the "three-tiered sensor strategy" to provide an adequate targeting capability for the 13F Fire Support Specialist Soldier. This strategy gives the 13F electro-optical sensors that are handheld, tripod-mounted and platform-mounted.

The Met Profiler. The advent of longer shooters and the need for target area Met data brought about the Profiler that originated from requirements documentation begun in October 1996. We began fielding the Profiler in FY06.

The Profiler uses a mesoscale model and software coupled with the unified post processing system to generate Met messages on demand. The mesoscale model ingests upper air data provided by the balloon-borne radiosonde, surface observation data, terrain data, regional observations and large-scale weather data. The resulting model output is a Met message. The model updates Met messages every 30 minutes.

Profiler generates Met data based on the gun and target locations out to a distance of 500 kilometers. Also, Profiler can operate in a degraded Met measuring system (MMS) mode when valid large-scale data is not available. Currently, 10 Profilers are providing Met data to forces in Operation Iraqi Freedom (OIF).

In the near future, we will not be dependent on flying balloons to produce Met messages. The value of the balloon will become insignificant once we have access to two-way secure satellite communications. This, along with advancements in software technology, will improve our accuracy, allowing us to continue to meet our precision munitions' requirements.

Radars. The AN/TPQ-48, known as the lightweight countermortar radar (LCMR), is envisioned as an additional capability to complement the current AN/TPQ-36 and 37 Firefinder radars. The Q-48 is a 360-degree search sector radar designed to acquire threat indirect fire systems. This system will help fill the sensor coverage gaps of fielded radars and fully supports the current and future force.

The initial LCMR, Increment I, was developed for use by the Special Operations Command (SOCOM) and had a range of five kilometers with a target location error (TLE) of 100-plus meters. We fielded Increments I and II for deployment. Increment II provides more rugged hardware and better software. Increment II is a part of the counter rocket, artillery and mortar (C-RAM) system of systems. Currently, we have 150 additional Increment II Q-48s under contract.

With Increment III, we will double the radar's range to 10 kilometers and increase its accuracy to a 50-meter TLE. We also have 13 Increment III Q-48s under contract for development and testing. Increment III will be fielded to brigade combat teams and fires brigades.

Command and Control. Fire support command and control systems are incorporating advanced technologies into current systems as we move toward the networked-enabled command capability. Improvements are directly linked to supporting units in the field. For example, the advanced FA tactical data system (AFATDS) has added the capability to streamline airspace deconfliction. This greatly decreases the time to clear GMLRS-U and ATACMS-U and minimizes the amount of airspace the munitions need. Look for AFATDS to transition to a Windows environment in FY08 and move toward an open architecture where fire support information will be available for anyone connected to the network.

The joint automated deep operations coordination system (JADOCS) is now an Army program being run by the fire support community. Besides improving several of its mission managers, it has an automated collateral damage estimation (CDE) tool that is being used in CENTCOM today.

The gun display unit-replacement (GDU-R) has been approved and will replace the obsolete GDU. There are several handheld devices available, easing light fire support operations: pocket-sized forward-entry device (PFED) for dismounted light observations and Centaur for fire direction center (FDC) operations.

By the way, all of our Training and Doctrine Command (TRADOC) systems managers (TSMs) who work these programs have now become TRADOC capabilities managers (TCMs) and are responsible for capability areas, not just systems.

C-RAM. Our enemy has changed as well. US and Coalition Forces deployed today face an asymmetrical counterinsurgency threat that capitalizes on using improvised explosives devices (IEDs) and indirect fires. The Army's C-RAM

initiative is a system of systems that incorporates a holistic methodology to defeat these threats, using both lethal and nonlethal capabilities in a proactive and (or) reactive manner before, during and after the rocket, artillery or mortar is fired.

Deployed today, this system of systems is a combat multiplier working to save lives and giving the ground commander enhanced situational awareness and an ability to respond rapidly. As the TRADOC lead for C-RAM, the Fires COE will continue to work closely with units in the field to refine and improve C-RAM capabilities and embed them into the future force.

WOT Reset Task Force. I want to close with, perhaps, the most important issue facing us today. The FA branch has been performing a wide variety of Army missions and has done an outstanding job. Many FA units have been performing nonstandard missions. As a result, this has had a detrimental effect on our core competencies, both for FA individuals and units as a whole.

We greatly appreciate the input many resetting unit commanders gave us recently in response to the query on the impact these nonstandard missions are having on our lieutenants, NCOs and units. That input is the basis for the plans we are building to address redeployed unit training needs.

The FA School, with the Directorate of Training and Doctrine (DOTD) as the lead, is establishing a WOT Reset Task Force and designing mechanisms to help field commanders to "re-Red" their Soldiers and units as quickly as possible. We intend to go to units and, through the Army force generation (ARFORGEN) process, identify unit needs and then address how we can help units reset.

Fort Sill is working now to establish mechanisms to provide commanders a menu of training options tailorable to the needs of their units. Our intent is for the menu to include options ranging from distance learning (or reachback capabilities) to structured mobile training teams (MTTs) to help retrain individuals, sections, platoons and batteries in FA core capabilities.

Obviously, this plan requires resources—resources that we'll have to fight to find. But our branch is being tasked like no other to do exceedingly difficult and divergent nonstandard, though vital, missions that use different skills sets than those of our core competencies. FA units have done magnificently in performing a myriad of tasks, but we owe them as much help as possible to recertify their Field Artillerymen again.

Resetting units can expect to hear from us in the near future with our plans on how we can help them meet their training needs. We need leaders' input so we can finalize the plan, acquire the resources to execute the plan and get resetting units the help they need.

Upon further review, our branch has seen and enacted its share of change. We're better organized to support our Army's operations; we're improving and adapting our education courses and methods; and we're upgrading our weapons systems with an eye toward the future. But our mission and dedication to accomplishing it remain steadfast. The underlying purpose of everything we do is to provide fire support for the supported Army or joint commander. Field Artillery—*King of Battle*!

Major General David C. Ralston became the Chief of Field Artillery and Commanding General of the Fires Center of Excellence and Fort Sill, Oklahoma, in August 2005. Also at Fort Sill, he served as the Assistant Commandant of the Field Artillery School and Chief of Staff of the Field Artillery Center. His assignment prior to becoming Chief of Field Artillery was as the Director of Force Management on the Army Staff, G3, at the Pentagon. He also served as the Assistant Chief of Staff for Operations in the Kosovo Force. He commanded two batteries; the 3rd Battalion, 1st Field Artillery (3-1 FA) in the 1st Armored Division in Germany; and the 1st Cavalry Division Artillery at Fort Hood, Texas. In addition, in Germany, he served as a Brigade Fire Support Officer in the 1st Armored Division and, at Fort Hood, as the S3 for the 2nd Armored Division Artillery and Executive Officer for the 1st Cavalry Division Artillery. He holds an MA from Central Michigan University and was an Army Senior Service Fellow at Harvard University.

NLOS-C 155-mm Firing Platform Prototype Unveiled

BAE Systems, Minneapolis, Minnesota, unveiled the future combat systems (FCS) non-line-of-sight cannon (NLOS-C) firing platform on 29 September 2006.

The NLOS-C firing platform features a 38-caliber length, fully automated 155-mm howitzer and soon will be shipped to Army test facilities where it will begin qualification testing of its ultra-lightweight cannon and breech.

The 155-mm firing platform is the first step toward the development of an NLOS-C prototype scheduled to begin testing in 2008.

Photo courtesy of BAE Systems, Minneapolis, MN

The Making of Redleg Pentathletes: Transforming Enlisted CMF 13

Private First Class Enrique Navarro, 3rd Battalion, 320th Field Artillery Regiment, (3-320 FAR) 101st Airborne Division, patrols Tikrit, Iraq, on 23 April 2006. (Photo by SPC Teddy Wade, 55th Combat Camera (COMCAM))

By Master Sergeant William F. Johnson and Lieutenant Colonel David J. Brost

While the Army continues to prosecute the Global War on Terrorism, now called the War on Terrorism (WOT), the Field Artillery simultaneously is laying the groundwork for Redlegs of the 21st century. Without question, Redlegs have demonstrated their flexibility and adaptability by executing a myriad of nonstandard missions, highlighting the versatility of our branch.

Future conflicts will be won by versatile and competent warriors, who the Chief of Staff of the Army calls, "Pentathletes." To that end, the FA is developing Soldiers and NCOs who can leverage capabilities for full-spectrum military operations—future Redlegs with multiple skills allowing them to make the most of advanced technologies and compatible platforms and systems to provide both lethal and nonlethal effects.

Many centuries ago, the Greeks created an all-around test—the pentathlon—for ancient Olympic Games. The competitors in this grueling event were called Pentathletes. The ancient pentathlon consisted of five events: long jump, discus throw, javelin throw, sprint and ended with a wrestling match. The winner of these events was proclaimed to be the best all-around athlete in the world.

The FA will create the best all-around Field Artillerymen by applying this multi-capable concept to developing the future force of enlisted Soldiers and NCOs. The NCO Pentathlete embodies five core competencies: critical and creative thinker, warrior leader, leader developer, ambassador and resource manager.

Our Soldiers and leaders must be able to plan, allocate and deliver FA fires; plan and coordinate joint fires;and still have the ability to transition to stability operations outside the US and civil-military support for homeland defense. This broad view of required skill sets calls for the transformation of our career management field (CMF) 13 to create and maintain multi-faceted FA Soldiers,

leaders and statesmen.

The FA is launching initiatives across many fronts as it transforms and redesigns the enlisted CMF 13 to meet the Army's needs for the 21st century. These initiatives include consolidating military occupational specialties (MOS), revising instruction in CMF 13 schools and education, and leveraging new technologies and weaponry. This article discusses those general initiatives and their impact on CMF 13 Soldiers and NCOs.

Consolidating MOS. MOS consolidation is a core strategy to meet future needs. As our technology moves forward and systems become more prognostic than diagnostic, crew sizes will decrease. This, in part, is due to the smaller, more capable force needed to support transformation against the backdrop of technological advances.

While some MOS, such as 13M Multiple-Launch Rocket System (MLRS) Crewmember, 13P MLRS Fire Direction Specialist, 13S FA Surveyor and 13W FA Meteorological Crewmember, will lose force structure with these changes, others, such as 13B Cannon Crewmember, 13D FA Tactical Data Systems Specialist, 13F Fire Support Specialist and 13R FA Firefinder Radar Operator, are seeing rapid growth.

Overall, by 2011, there will be more FA Soldiers and NCOs in the Army than in FY04 (pre-transformational).

Although many different systems exist in the inventory today to accomplish similar tasks, future combat system (FCS) platforms will consist of compatible hardware and software that allow us to merge some MOS. Core competencies will begin to change from technical to tactical tasks, allowing Soldiers to move seamlessly from system to system, reducing dependence on technical skills and creating NCOs with a focus on tactical applications.

In the FA campaign plan for the future, the FA MOS are separated into two career paths—Fire Support Coordination (13D, 13F, 13P, 13R, 13S and 13W) and FA Fires Delivery (13B, 13M). Separating the FA MOS into two career fields does not mean that the branch will have only two MOS in the future. However, consolidating some of the MOS provides flexibility to the branch and prepares it to meet the needs of tomorrow's Army.

With the creation of the modular brigade combat teams (BCTs), small numbers of low-density Artillery MOS within a BCT limit flexibility in assignments and, potentially, cause significant capability shortfalls. In addition, FCS platforms will be designed with software and hardware compatibility, reducing the required skill sets found within our current enlisted force.

For MOS 13W, the development and use of new technologies that currently allow personnel to obtain meteorological (Met) data via satellite- or Internet-based platforms continue to reduce the need for traditional methods of Met data collection and, subsequently, will reduce the 13W force structure. FCS platforms will be embedded with similar Met capabilities.

In the field of survey, embedded equipment on platforms, such as Paladin, and the addition of the gun-laying and positioning system (GLPS) already have replaced conventional survey requirements. These technological advances have allowed 13S Soldiers to perform additional, nonstandard tasks on the battlefield. The reduced reliance on the survey skill sets brought to the fight by personnel within this field also will result in a reduction of force structure.

One initiative under consideration is the consolidation of MOS 13W, 13S and 13R into one MOS. If approved, the consolidation will parallel the fielding of new equipment that reduces the force structure of 13S and 13W. Based on these reductions, the FA School is evaluating programs of instruction (POIs) to ensure the critical skills would be trained in the new specialty. Critical tasks from each of the MOS would be incorporated into the revised POI. We anticipate the MOS reductions to start in the FY08-FY09 time frame.

In the field of fire direction, the consolidation of MOS 13D and 13P into one MOS is gaining traction as the FA becomes more streamlined in fire support coordination and delivery systems. The case for consolidating our two fire direction MOS revolves around two distinct specialties performing similar functions on a common device. These specialties use the advanced FA tactical data system (AFATDS) to compute technical data for two different delivery systems; however, they share the same "box" and perform similar functions. The fact that MOS 13D must know manual gunnery theory for cannon fire direction versus the 13P who uses safety box computation for rocket fire direction is a hurdle for consolidation.

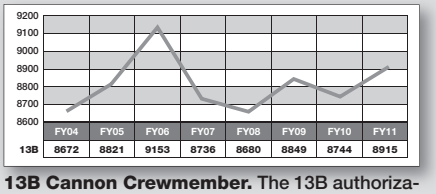
With the modular restructuring of the Army, the number of MLRS battalions will decrease, reducing the number of authorizations for 13M and 13P by more than one-third by 2011.

In the FA fires delivery career field, technological changes are creating com-

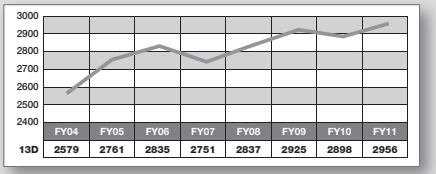
A Redleg from B Battery, 3-320 FAR, scans the desert during a patrol in the Salah Ad Din Province, Iraq, on 29 March 2006. (US Navy Photo by Photographer's Mate 3rd Class Shawn Hussong, Fleet Combat Camera, Atlantic)

13 Series FY04-FY11 Authorizations

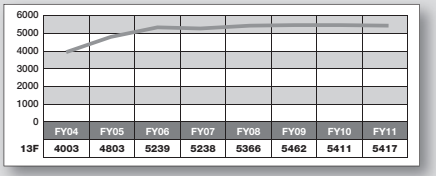
Military Occupational Specialty (MOS) 13B through 13P



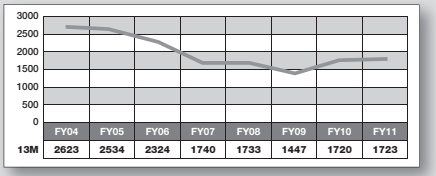
13B Cannon Crewmember. The 13B authorizations from FY04 (pre-transformational) through FY 11 show an increase of 250 Soldiers. This increase incorporates the crew reduction on the Paladin 155-mm self-propelled howitzer (from a crew of nine to eight) and the reduction of the number of firing batteries in fires battalions under modular restructuring; however, those reductions are more than offset by the overall increased number of cannon battalions in the Army inventory.



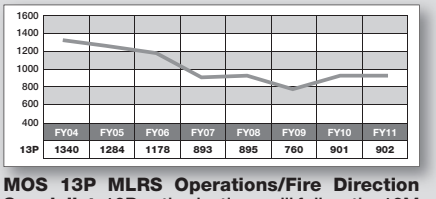
MOS 13D FA Tactical Data Systems Specialist. 13D authorizations are increasing due to the creation of additional fires battalions in the Army. Additionally, some positions previously filled by fire support Soldiers have been recoded to leverage the 13D skills set.



MOS 13F Fire Support Specialist. 13F authorizations continue to grow under transformation due to the increase in the number of fires battalions in the Army and the creation of additional 13F positions in fire support cells (FSCs) at the brigade and higher levels.



MOS 13M Multiple-Launch Rocket System (MLRS) Crewmember. 13M authorizations will decrease as the numbers of MLRS battalions are reduced to support transformation.



MOS 13P MLRS Operations/Fire Direction Specialist. 13P authorizations will follow the 13M model as transformation restructures the force.

monality among weapons systems. The 13B Soldier's crew duties and tactics for the new non-line-of-sight cannon (NLOS-C) more closely will resemble those of a 13M. Also, the new NLOS launcher system (NLOS-LS) will be added to the inventory. Future duties, responsibilities and functions within the delivery field will be assessed to determine the merit of consolidating the two MOS.

In the end, technology and commonality of platforms and functions will be a driving force for consolidation as the branch moves through modular restructuring and FCS transformation.

Growth within the field of radar will be seen as legacy systems and platforms are replaced, giving way to new and improved systems that will provide a robust acquisition architecture for combat forces. Additionally, warrant officers will no longer be assigned as radar section leaders as this position will be filled by a radar NCO. This is a two-fold initiative as it places the NCO in a leadership position responsible for being tactically and technically proficient in radar employment and provides the Army a warrant officer who is a targeting expert in planning and executing lethal and nonlethal fires and effects.

Revising CMF 13 Schools and Education. The consolidation of multiple MOS requires a complete restructuring and retooling of the enlisted educational system (EES), which is all education beyond basic training. Additionally, it will require a change to the officer education system (OES) as many tasks conducted by officers will be embedded in the EES. (OES includes officer and warrant officer training and education.)

Current POIs are undergoing rapid redesign reflecting the urgency and swiftness of change. These efforts are two-fold as they address future needs based on restructuring efforts and also reflect the need to stay relevant with regards to the introduction and refinement of tactics, techniques and procedures (TTPs) pertinent to the 21st century and WOT.

The restructuring of the EES will begin at the lowest level of advanced individual training (AIT) through the NCO education system (NCOES) courses. For MOS 13R, some warrant officer tasks will be migrated into the respective NCOES courses. Currently, plans are underway for a total redesign of the 13R course content.

The FA has submitted a proposal to formalize the position of master gunner. The table of organization and equipment (TOE) or modified TOE (MTOE) positions of assistant operations sergeants will have an additional skill identifier (ASI) designating them as master gunners. Selected senior NCOs in MOS 13B, 13D, 13M and 13P will become FA master gunners. Personnel trained at Fort Sill, Oklahoma, in the Master Gunner Course will receive the project development skill identifier (PDSI) of E2B for tracking purposes until the ASI is approved.

The FA Proponency Office (FAPO) at Fort Sill has submitted a proposal for the master gunner ASI of A7. This will formally recognize the position in TOEs and provide the battalion commander and staff with a certified expert on FA training, maintenance and the certification of crews.

MOS 13F has become one of the FA's premier specialties. As a model Pentathlete, personnel within MOS 13F will be trained to leverage the full spectrum of military operations, including requesting, adjusting and controlling surface-to-surface munitions, joint fires for joint interdependency, and information operations (IO) and other nonlethal effects.

One of the many initiatives underway complementing the FA's strategy of building a more capable force for the 21st century is the creation of the joint fires observer (JFO). The drive for a JFO is grounded on meeting the maneuver commander's needs for a trained service member who can request, adjust and control various surface-to-surface munitions; provide targeting information for the joint terminal attack controller (JTAC) in support of Types 2 and 3 close air support (CAS) when the JTAC cannot see the target or the aircraft at the weapons release point; and perform autonomous terminal guidance operations (TGOs).

JFOs are trained in the employment of fires and effects delivered by all services. Soldiers in MOS 13F are among the first service members to be trained as JFOs. The end state is that every maneuver platoon will have a JFO. Although the concept of the JFO is not new, the services now recognize JFOs in the modular Army as force multipliers.

The JFO Course at Fort Sill provides the initial training required for personnel selected for duty as a forward observer (FO) or combat observation lasing team (COLT) chief. The TOE or MTOE positions of FO and COLT chiefs trained as JFOs will be identified with the ASI

of L7. Personnel graduating from the JFO course will receive the PDSI of D7B until the position is coded with an L7 ASI. Currently, a proposal is being staffed at Headquarters, Department of the Army, to assign the ASI to FO and COLT chief positions.

To prepare for the ever-changing operational environments and conditions in the future, FA Soldiers will transform into Pentathletes with a broad array of capabilities. To this end, the FA is the Army's lead for tactical IO. The FA conducts a three-week Tactical IO Course to provide a working foundation of IO for the battalion through the division levels of operations and teaches Soldiers, Marines, Sailors and Airmen to integrate and operate in a joint informational environment. The course teaches the application of tactical IO, IO core and supporting elements, IO integration into the military decision-making process (MDMP), the targeting process, analysis of the informational environment, and IO execution and assessment.

Officers and warrant officers positioned as targeting officers and 13F staff sergeants and sergeants first class positioned as targeting NCOs make up the bulk of Army positions that will require this training. These personnel will be trained to function within an IO cell that integrates, coordinates and synchronizes IO at echelons above battalion.

Graduates will receive a PDSI of D8B for tracking purposes until an ASI is approved. FAPO has submitted a proposal for coding positions requiring this training with an ASI of P4.

Leveraging Technologies and Weaponry. The Army has set its course for the future with a vision to transform into, among other capabilities, a fighting force more lethal, precise, agile and deployable than any ground combat element in the world. To do this, systems must be multifunctional, adaptable and capable of supporting full-spectrum combat operations.

With the development of the NLOS-C, Artillerymen will remain effective and lethal, regardless of the task at hand. The NLOS-C will provide the commander unprecedented responsiveness and lethality. It will be networked, have extended-range targeting and be able to conduct precision attacks on point and area targets with a suite of munitions that includes special-purpose capabilities. The NLOS-C will provide sustained fires for close support and destructive fires for tactical standoff engagements 24/7 in all weather conditions.

NLOS-C will enable a four-person crew to achieve what currently takes eight Soldiers to accomplish due, in part, to technology shifts that automate many features previously handled by Soldiers (loading, ammunition resupply, etc.). Moreover, NLOS-C's automated systems will reduce the physical demands and stresses placed on the Soldier and provide substantially increased firepower faster and more accurately than ever before. In addition, it will include built-in active protection systems for optimum crew protection.

Six prototype howitzers will be fielded to the evaluation BCT (EBCT) each in FY10, FY11 and FY12. The EBCT will be at Fort Bliss, Texas.

NLOS-LS will support the modular BCTs and the FCS BCTs (FBCTs) and will be networked to rapidly provide extended-range precision attack of stationary and moving high-payoff targets (HPTs). The container/launch unit (CLU) will have 15 precision attack missiles (PAMs) and be positioned in selected locations on the battlefield to provide precision-guided discriminating effects out to 40 kilometers from the CLU.

NLOS-LS will be organic to the fires battalions in the BCTs, requiring few resources to position or fire. It is platform-independent and can be fired while uploaded or from the ground.

Because of the 13B Soldiers' location in the BCTs, they will be trained to operate both the NLOS-C and NLOS-LS. The need to increase the number of 13Bs with security clearances to operate these classified systems will be a challenge.

In addition, our 13F FOs, JFOs and COLTs will train to employ PAM in its various engagement modes: grid attack, semi-active laser (laser designation) and uncooled imaging infrared. 13Ds will control NLOS-LS missions remotely using AFATDS.

13Ms will continue to man MLRS and the high-mobility artillery rocket system (HIMARS) in the fires brigades.

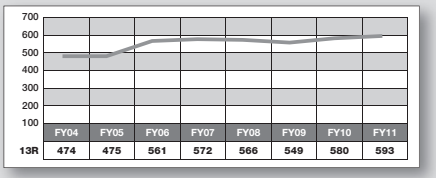
The NLOS-LS will be tested by the EBCT in the First Quarter of FY08; the first heavy (HBCT) is projected to receive systems at the end of FY10. Eventually, NLOS-LS will be fielded to all modular BCTs.

Quantitative changes will be recorded in the radar field that will increase the demand for 13Rs or the Soldiers in their consolidated successor MOS. Systems, such as the new Q-48 lightweight countermortar radar (LCMR), Increments I

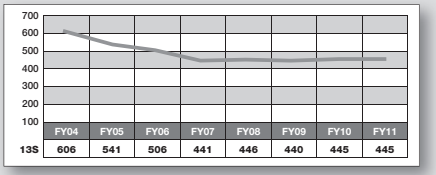
13 Series FY04-FY11 Authorizations

MOS 13R through 13Z

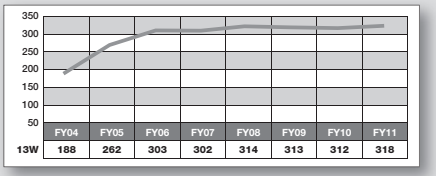
(Continued from Page 8)



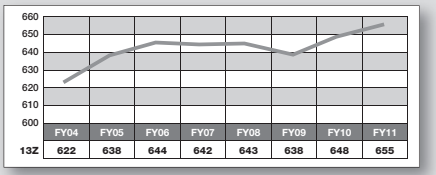
MOS 13R Firefinder Radar Specialist. 13R authorizations will increase under transformation as the number of radar systems in the inventory continue to grow. *Note:* The authorizations number of 593 for FY11 does *not* reflect the 300-plus authorizations for the Q-48 lightweight countermortar radar (LCMR); due to the fielding of the Q-48, the 13R authorizations begin increasing in FY09 and increase beyond FY11.



MOS 13S FA Survey Specialist. 13S authorizations show a dramatic decrease as survey capabilities are embedded in systems, replacing the need for manual survey. The current position and azimuth determining system (PADS) crew size of three will be reduced to two across the Army. With the fielding of the M777 lightweight 155-mm howitzer, all FA systems will have embedded survey with the exception of the M119A2 howitzer.



MOS 13W Meteorological Crewmember. 13W authorizations are similar to 13S authorizations and will decrease in the future. While not depicted on this chart, Profiler II and III will have a reduced crew size (from six to four personnel). Additionally, the ability to access Met data from the Internet, such as from the Air Force Weather Agency (AFWA), reduces the FA's dependency on conventional methods to gather Met data.



MOS 13Z Career Management Field (CMF) 13 Senior Sergeant

Data for these graphs came from the 0607 Unit Update Authorization Document (UAD) provided by the Department of the Army's G1 at the Pentagon.

and II, currently provide force protection in support of Operations Iraqi Freedom (OIF) and Enduring Freedom (OEF). The LCMR underwent rapid fielding and can provide 6400-mil coverage out to a range of five kilometers. Increment III is under development, increasing the radar's range and accuracy. The 13R force structure increase for the LCMR alone is more than 300 positions.

To be fielded in FY10, the enhanced Q-36 Firefinder radar, the EQ-36, will offer 6400-mil coverage along with extended-range and increased accuracy. It will bring the ground commander a more robust warfighting capability.

With improved technology, the future multi-mission radar (MMR) will increase sensor capabilities across multiple missions using a single system. This new radar will leverage the combined capabilities of the Firefinder radars, Air Defense Artillery's Q-64 Sentinel radar, and Aviation's air traffic navigation, integration and coordination system (ATNAVICS) radar.

MOS 13R authorizations will see significant increases throughout transformation.

CMF 13 Personnel Impacts by MOS. Emerging technologies, future combat systems and FA transformation will impact personnel across the CMF 13. Some enlisted MOS will experience growth in size and structure while others will experience a decrease, effectively altering the landscape for promotion potential. The graphs for each MOS on Pages 8 and 9 reflect FA authorizations *before* transformation through FY11.

Females will continue to serve in the FA. In fact, the FA has its first female Sergeant Major, Sergeant Major Jenny Clements, who is attending the Sergeant Major's Academy at Fort Bliss, Texas.

As we transform, our first priority must be to stay focused on WOT. The FA's future success will hinge upon our ability to forward deploy Field Artillerymen and equipment with the right structure and size to provide flexibility, agility and lethality. Fort Sill's enlisted training base will continue to focus on the Army's core competencies to train and equip Soldiers, grow leaders and provide a relevant and ready land power capability to combatant commanders. Transformation will retain the best of our current capabilities and attributes while continuing to develop flexible and adaptable Soldiers to respond to future operating environments throughout the world.

Master Sergeant William F. Johnson is the Senior Career Manager as the Career Manager of Military Occupational Specialty (MOS) 13F Fire Support Specialist in the Field Artillery Proponency Office (FAPO), Office of the Chief of Staff, Fort Sill, Oklahoma. His various assignments include serving as First Sergeant of C Battery, 3rd Battalion, 82nd Field Artillery (C/3-82 FA), 1st Cavalry Division, Fort Hood, Texas, during Operation Iraqi Freedom (OIF) II, and as the Operations Sergeant at 3-82 FA. He also served as an Observer/Controller (O/C) for Fire Support Training at the Combat Training Maneuver Center (CMTC) at Hohenfels, Germany, and as a Drill Sergeant in 1-22 FA at the Field Artillery Training Center (FATC), Fort Sill.

Lieutenant Colonel David J. Brost is the Director of the FAPO at Fort Sill. He commanded 1-12 FA, 17th FA Brigade, formerly of III Corps Artillery, at Fort Sill, deploying the battalion in a nonstandard mission in support of OIF II. Among other assignments, he was the Senior Assessments Officer in the Anti-Terrorism/Force Protection Division of the J3, Joint Staff, at the Pentagon and the 17th FA Brigade's S3 and Executive Officer at Fort Sill.

JFO Terminology Clarification

Due to the Editor's error, some joint fires observer (JFO) terms used in the article "2nd BCT, 2nd ID, Qualifies JFOs" that appeared in the September-October edition were misleading.

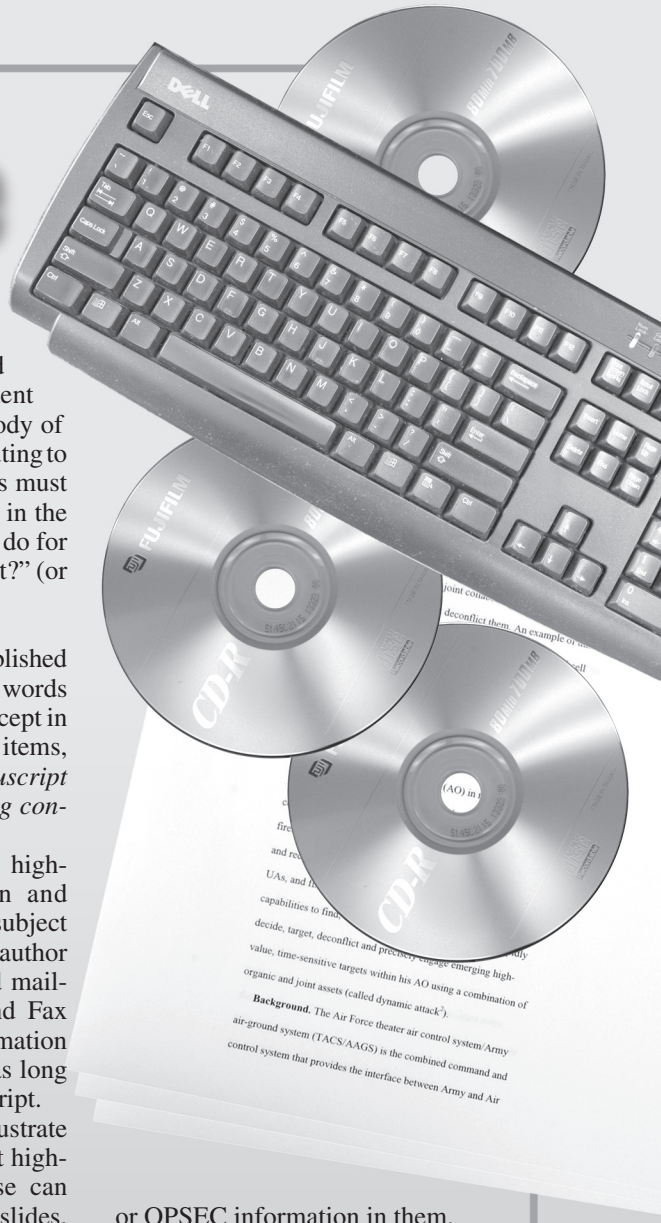
Students who graduate from the two-week JFO Course at Fort Sill, Oklahoma, or Nellis AFB, Nevada, are *certified*. Each then needs a letter from his battalion commander to be *designated* as a JFO and perform in that capacity for the initial six months.

A certified/designated JFO must complete semi-annual training requirements (as outlined in the article) to maintain his *qualification* as a JFO.

Editor

***Real* Joint Interdependence.** USAF Lieutenant Colonel G. Todd ("Joker") Lang, F-16 pilot, loads a round into an M119 howitzer before pulling the lanyard at Fort Sill in July. He is the Officer-in-Charge (OIC) of the Oklahoma Air National Guard Detachment, which is part of the Air Force Detachment in the Joint and Combined Integration Directorate (JACI). Several Air Force pilots from JACI fired M119s that belong to B Battery, 2nd Battalion, 2nd Field Artillery (B/2-2 FA), 30th FA Regiment, to give them experience in providing surface-to-surface, all-weather, 24/7 fires.

Author's Guide



A bimonthly joint magazine, *Field Artillery* is the professional journal for US Army and Marine Corps Redlegs worldwide. Approximately 40 percent of our readership is company-grade, both officer and enlisted, with the remaining 60 percent more senior Army and Marine personnel, Department of Defense (DoD) civilians, retirees, members of other branches and services, allies, corporate executives and our political leaders.

In addition to articles, we routinely print the Chief of Field Artillery's column ("Army's Joint Fires Coordinator"); letters-to-the editor (Incoming); interviews with Army, joint and combined leaders; and other features.

Subjects. Articles may cover the tactical, operational or strategic levels of military operations as long as their contents relate to Field Artillery, joint or coalition fires and effects or are of special interest to our readers.

If an author is writing about the past, he should analyze the events and show how they apply to Field Artillerymen today—not just record history. If he's identifying current problems, he must propose solutions. (An author may identify problems without proposing solutions only in a letter-to-the-editor.) In addressing the future, he should clearly explain his points and their implications.

Since the magazine's founding in 1911, one of *Field Artillery's* objectives has been to serve as a forum for professional discussions among the FA and fires community members. Therefore, an author's viewpoint, recommendations or procedures don't have to agree with those of the Branch, Army, Marine Corps or DoD. But his article's contents must be logical and accurate; address disadvantages as well as advantages (as applicable); promote only safe tactics, techniques and procedures (TTPs); and include no classified or operational security (OPSEC) information.

Articles must be clear and concise with the thesis statement (bottom line) up front and the body of the article systematically contributing to the thesis. When writing, authors must think like the Field Artilleryman in the field: "What is it?" "What will it do for me?" and "How do I implement it?" (or "When will I get it?").

Submissions. Include—

- A double-spaced, typed, unpublished manuscript of no more than 5,000 words with footnotes as appropriate. Except in the case of Army-wide "news" items, *authors should not submit a manuscript to* Field Artillery *while it is being considered elsewhere.*
- A comprehensive biography, highlighting experience, education and training relevant to the article's subject and credentialling him as the author of the article. Include email and mailing addresses and telephone and Fax numbers; please keep this information current with *Field Artillery* for as long as we're considering the manuscript.
- Graphics with captions to illustrate and clarify the article. We accept high-resolution digital images. These can include photographs, drawings, slides, maps, charts, unit crests, etc. (See the "Digital Photo Shooter's Guide" on the next page.)

Authors should check with unit commanders or organization directors or S2s/G2s to ensure articles have no classified or OPSEC information in them.

The *Field Artillery* staff will edit all manuscripts and put them in the magazine's style and format. Authors of articles and interviewees will receive a "check copy" of the edited version before publication.

Magazine Information

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- Mail your submission to *Field Artillery*, P.O. Box 33311, Fort Sill, Oklahoma 73503-0311.
- Over-night your submission to us at Building 758, Room 8, McNair Road, Fort Sill, Oklahoma 73503-5600.
- View our home page at sill-www.army.mil/famag/index.asp. We have magazines online back to 1959.

Submission Deadlines

Edition	Deadline
Jan-Feb	15 Oct
Mar-Apr	15 Dec
May-Jun	15 Feb
Jul-Aug	15 Apr
Sep-Oct	15 Jun
Nov-Dec	15 Aug

Digital Photo Shooter's Guide

At *Field Artillery*, we prefer high-resolution digital photographs. Submissions should be no smaller than 2 megapixels, which is approximately 4-by-6 inches at 300 pixels per inch (ppi) or 16-by-24 inches at 75 ppi. For cover and feature photos, we prefer 6 megapixels or more, which is approximately 6.5-by-10 inches at 300 ppi or 26-by-40 inches at 75 ppi. Depending on the compression ratio when the photo is saved, the closed file size of the photo will be 150 kilobytes (KB) or more. To find out the closed file size, right click on the photo file thumbnail, scroll to the bottom of the menu and select "Properties."

When shooting digital photos for publication, there are some technical steps you should follow.

1. Shoot the picture at the highest resolution possible. When taking a photo, set your digital camera on the largest image size and the highest quality resolution the camera will allow. The highest resolution settings usually are called "High," "Super Fine" or "Ultra-High." Cameras set at "Standard" or "Basic" quality can sometimes produce images only good enough for websites or PowerPoint presentations, not publication in the magazine. Just because a photo looks good on your computer screen does not mean it is printable in the magazine.

You will be able to take fewer photos with your camera on the highest setting, but those you take most likely will be usable in the magazine. The cost of photo storage cards, or memory cards, has drastically decreased in the past few years, so invest in a larger storage card that will allow you to take more photos at the higher quality settings.

We prefer files saved as a JPEG. When saving a file as a JPEG, choose a "Quality" setting of "Maximum" or "10" and the "Format Option" of "Baseline (Standard)."

One piece of shooter's advice is to get close to the subject—the closer, the better. Even if you shoot the photo on a high-resolution setting, if the subject doesn't fill the frame, by the time we crop the photo, we may not be able to use it.

2. Do not manipulate the photo. Do not crop, resize or try to edit the image in any way. This includes adjusting the brightness and contrast.

We know what settings work best according to the specifications of our printer. We also have the latest professional digital image manipulation software. Let us take care of that.

And, please, don't try to "beef up" the resolution of the small, low-resolution photo you've shot. Shooting a one megapixel image and increasing the ppi after you've shot it will not make the image clearer or more usable—it only will make the image larger. You are bound by the resolution setting at the time the photo is taken.

Important: Do not place the photos in Microsoft PowerPoint or Word and send them to us. They are unusable in those formats.

3. Send us the digital photo. By following the first two steps, you may have a large file for each photo.

Our magazine's email will accept up to 20 megabytes (MBs) per message. Do not try to send us larger files via email. You can send us several photos by breaking them up into multiple emails. Be sure to include caption information (who's doing what, when and where) for each photo attached and the title/name of the associated article/author. Also include the photographer's full name, rank and unit for credit in the magazine and information to contact the photographer, if possible. This information can be embedded in the photo properties or sent as a separate text document. To embed information in the photo properties: right click on the photo's icon; scroll down and select "Properties"; click on the "Summary" tab; type in the information; click "Apply" and close the properties window.

A file transfer protocol (FTP) site is available at Fort Sill for uploading photos. No special software is required to upload your images. Simply send us an email requesting instructions for uploading your photos on our FTP site.

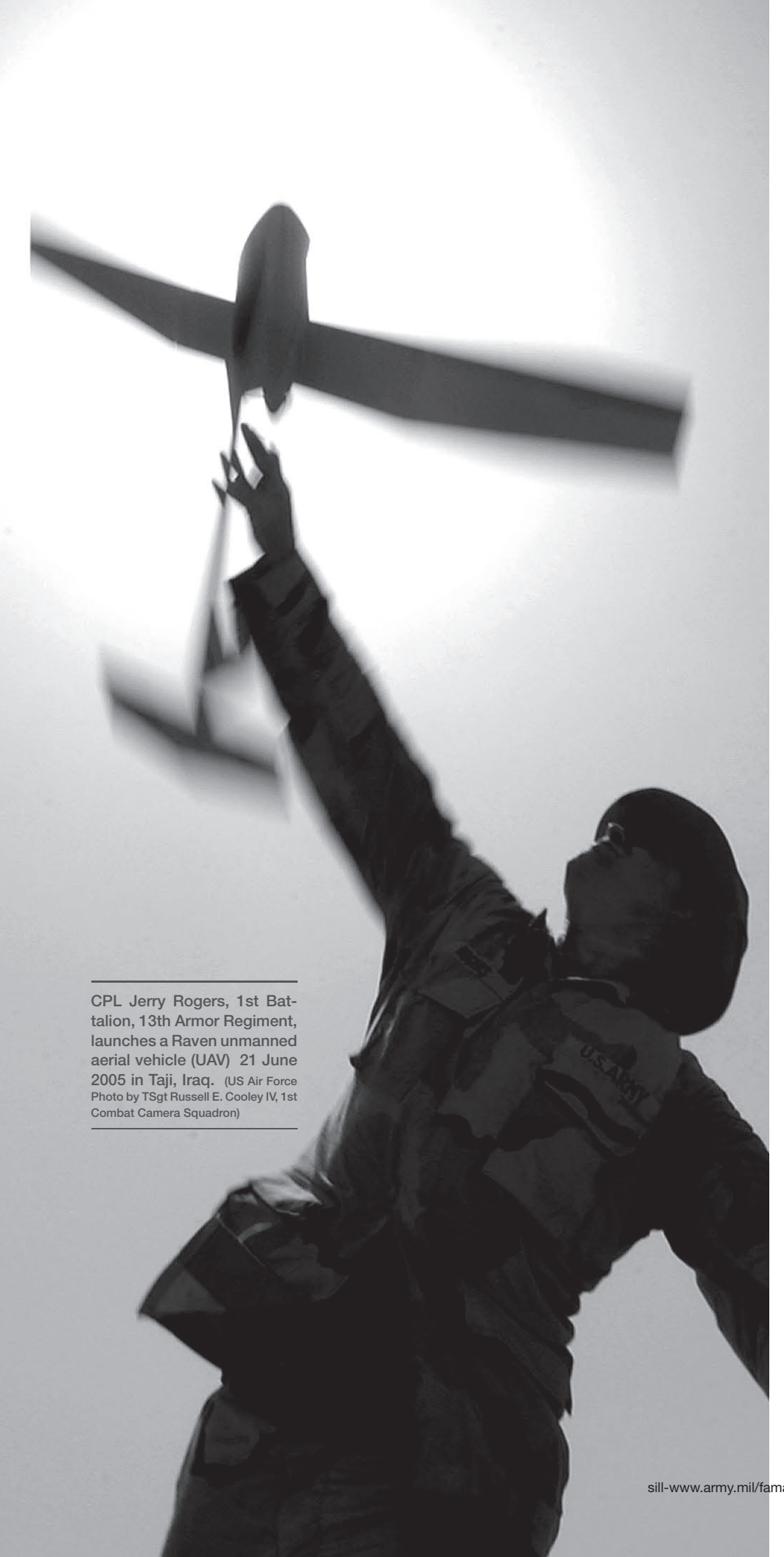
You also can mail your photos. We accept photos saved on either a Zip disk or CD.

All submissions become the property of the magazine and cannot be returned.

If you have questions about shooting digital photos, call the Art Director at DSN 639-5121/6806 or Commercial (580) 442-5121/6806. Our email is famag@conus.army.mil. Our mailing address is *Field Artillery*, P.O. Box 33311, Fort Sill, Oklahoma 73503-0311. If you want to over-night your photos to us, the address is Building 758, Room 7, McNair Road, Fort Sill, Oklahoma 73503-5600.

We know the majority of our digital shooters are not professional photographers. You are authors/photographers who are Soldiers and Marines—even better, mostly Field Artillerymen—telling the story of the best branch and best Army and Marine Corps in the world.

Help us do justice to your articles by following these instructions for taking digital photos. *Good Shooting*!



CPL Jerry Rogers, 1st Battalion, 13th Armor Regiment, launches a Raven unmanned aerial vehicle (UAV) 21 June 2005 in Taji, Iraq. (US Air Force Photo by TSgt Russell E. Cooley IV, 1st Combat Camera Squadron)

JAGC^2: A Concept for Future Battlefield Air-Ground Integration

By Colonel (Retired)
Curtis V. Neal, USAF

As a result of lessons learned during combat operations in Afghanistan and Iraq (2001 to 2006), the imperative to build joint integrated command and control structures has highlighted doctrinal and technical air-ground integration issues. This is demonstrated by the many ad hoc organizations created to deal with the challenges of the modern battlefield.

The key is to enhance joint collaborative efforts to integrate joint assets rather than just deconflict them. An example of this collaboration is represented by the joint air-ground control cell (JAGC^2), a concept not yet established in joint doctrine but supported by combat operations.

Established within the corps or division, JAGC^2 provides the commander the ability to plan, coordinate, deconflict and control all third dimensional operations in the airspace overlying the division or corps area of operations (AO) in real time or near real time (battlefield airspace control[1]). With airspace control combined with the joint integration of intelligence, targeting and fires, the commander can employ his intelligence, surveillance and reconnaissance (ISR) assets effectively (unmanned aircraft, or UAs, and fixed- and rotary-wing). He

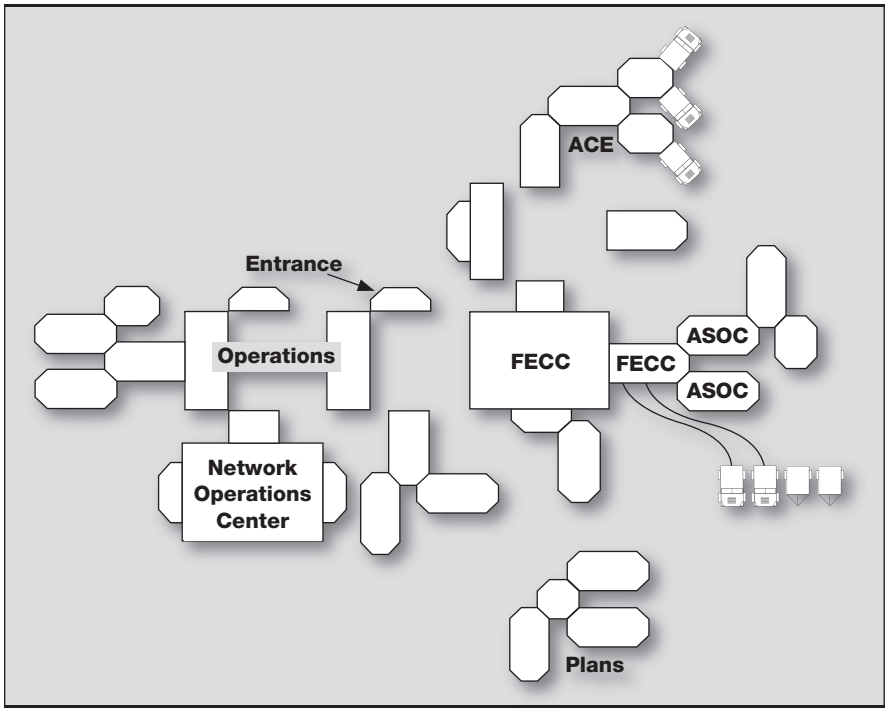


Figure 1: V Corps Main Command Post at Camp Virginia, Kuwait, during Operation Iraqi Freedom (OIF) I. The layout shows the relative locations of the fires and effects coordination cell (FECC), the all-source collection element (ACE) of the corps G2 and the Air Force's air support operations center (ASOC).

also can leverage joint ISR capabilities to find, track and target the enemy and more rapidly decide, target, deconflict and precisely engage emerging high-value, time-sensitive targets within his AO using a combination of organic and joint assets (called dynamic attack[2]).

Background. The Air Force theater air control system/Army air-ground system (TACS/AAGS) is the combined command and control system that provides the interface between Army and Air Force tactical air support agencies in planning, coordinating and controlling air support operations. Evolving from the lessons of World War II, Korea and Vietnam, this system is the basis for requesting and controlling close air support (CAS) since it was formalized in a "Concept for Improved Joint Air-Ground Coordination" signed by the Army and Air Force Chiefs of Staff in 1965.

Within the TACS/AAGS, the Air Force is responsible for communications to request and deliver CAS, providing advisors and forward air controllers (FACs) in the form of tactical air control parties (TACPs) and establishing regional coordinating centers (now called air support operations centers, or ASOCs) that plug into Army maneuver headquarters. The Army commander, through his G2 and G3 air personnel and the fire support cell (FSC), specify the targets to be attacked, determine the priorities and coordinate tactical air integration with the fires and maneuver of the ground forces.

The TACS/AAGS is a "stovepipe" system that is satisfactory for rapid management, planning and deconfliction. However, it was not designed for real-time (or near-real-time) coordination, deconfliction and control of all tactical air operations and fires or to quickly execute complex processes that require joint integration of airspace control, intelligence, targeting and fires.

The Growing Airspace Congestion Problem. It's widely acknowledged that airspace control within the ground commander's AO is becoming more complex and difficult. In a 2005 *Air Force Magazine* article, author Rebecca Grant notes there are some 775 UAs—from miniature UAs to the high-altitude Global Hawk—now in operation over Iraq and Afghanistan.[3] Michael Heinz, who heads Boeing's Unmanned Systems unit, "sees an annual market of at least $10 billion by the decade's end with growth continuing at double-digit rates for a decade or more."[4]

The airspace environment also is becoming more complex. Altitudes and ranges of new weapons systems are increasing. For example, the Army loiter attack munition (LAM) that will be organic to the brigade combat team (BCT) is being designed to cruise at medium altitude out to 100 kilometers with a 45-minute loiter time.[5] To meet the need for real-time ISR in the division, the Army recently decided to buy up to 132 extended-range, multipurpose UAs to operate up to 25,000 feet and out to 250 kilometers.

In a mature theater of operations, the ground commander not only must contend with his own airspace users, but also with commercial flights, contract aircraft and other government agency aircraft. Lieutenant Colonel Roy Lembke, 4th Infantry Division G3 Aviation Chief, points out that political and economic objectives require the commander to facilitate all types of military and civilian air traffic while simultaneously conducting combat operations.[6]

Joint Intelligence, Targeting and Fires Integration. Charles E. Kirkpatrick wrote the paper "Joint Fires as They Were Meant to Be: V Corps and the 4th Air Support Operations Group During Operation Iraqi Freedom" that was published in *The Land Warfare Papers* in October 2004. In the paper, he relates how V Corps and its Air Force component, the 4th Expeditionary Air Support Operations Group (4th EASOG), collaborated by integrating Army and Air Force intelligence and targeting to focus and execute joint fires more rapidly. Achieving this level of integration required "organization and equipment the 4th EASOG did not have and a fundamental change in operating philosophy."[7] At the most basic level, it required an ad hoc integration of ASOC, TACP and corps command post (CP) cells and elements, an integration that had not been previously attempted.

"The critical ingredient in successful focusing of joint fires," as corps commander Lieutenant General William S. Wallace later commented, "lay in the organization of the main command post to place the ACE [all-source collection element], FECC [fire and effects coordination cell] and the ASOC in close proximity for current operations."[8] This required collocating the ASOC and corps TACP so the intelligence and targeting elements were fully integrated with the corps G2, the fire support coordinator (FSCOORD) and the rest of the FECC.[9] See Figure 1.

Although it was an ad hoc arrangement, Kirkpatrick concluded that it points the way toward further and "even more fruitful collaboration among warriors of all armed services."[10]

JAGC². The imperatives to break down

stovepipes and build joint integrated command and control structures that preclude the need for ad hoc arrangements form the basis of the JAGC^2, conceptually represented in Figure 2. With many of the attributes of an integrating cell, the JAGC^2 is composed of various staff sections (functional cells or elements) and command and control facilities, such as the ASOC and TACP. While some integration takes place in a functional cell or command and control facility, the focus is generally on maximizing the effects of a single warfighting function.

Integrating cells, such as the JAGC^2, focus the efforts of multiple functional cells and command and control facilities on planning and preparing for or executing the overall operation within a time horizon. Integrating cells are not new. Current operations, future operations and plans are all integrating cells.

The "sweet spot" for joint integration is the division or corps CP where tactical control (TACON) of brigades and operations is exercised. This is where the ASOC and division or corps TACP normally are collocated.[11] It is also where the senior FSC directs and monitors fires and the senior Army airspace command and control (A^{2}C^2) element and tactical air defense element are located. The precise determination of the JAGC^2's organization and technological requirements will depend on the processes it will integrate.

Brigadier General Richard P. Formica's Multinational Corps-Iraq (MNC-I) Joint Fires and Effects Cell (JFEC) during Operation Iraqi Freedom (OIF) II provides insight into who might lead this cell. In his organization, the corps air liaison officer (ALO), essentially, served as the deputy effects coordinator (DECOORD).[12] Because the ALO already commands the ASOC and TACP, he is a logical choice. His designation as the corps or division DECOORD or deputy fire support coordinator (DFSCOORD) emphasizes the joint collaborative aspects of the JAGC^2 concept.

Battlefield Airspace Control. The ability to plan and coordinate, deconflict and control all third dimensional operations rapidly in the airspace overlying the division or corps AO in real time or near real time is critical. Normally designated the airspace control authority, the joint force air component commander (JFACC) is responsible for theater-wide airspace control. However, current JFACC doctrine and equipment were not designed to provide real-time or near-real-time control of this increasingly complex and crowded airspace.

Requesting or changing a formal airspace coordination measure (ACM) outside of the normal airspace control order (ACO) cycle is time-consuming and unresponsive, taking up to 20 minutes to process a single request. Captain Rudy Cancino, Chief of Combat Airspace at the Combined Air and Space Operations Center Nellis (CAOC-N) at Nellis AFB, Nevada, notes that six to 10 additional real-time or near-real-time requests an hour, along with the other ACM requests, would pretty much overwhelm the airspace control cell (ACC) in an air operations center (AOC).[13] This limitation is not conducive to the tactical flexibility required by the ground commander.

The solution is to delegate airspace control authority. The airspace control authority can delegate execution of airspace control to a component in the airspace control plan or ACO, using an airspace control sector for a large area or a high-density airspace control zone (HIDACZ) for a small area.

With their organic air assets, the Marine Corps and Navy routinely decentralize the execution of airspace control. However the Army and the Air Force normally do not allocate resources for decentralized control over the Army AO.

By integrating Air Force and Army controllers, the Army and Air Force can build an airspace organization that can control an airspace sector over the division or corps AO. This implements existing doctrine that in the past the Army or Air Force have not resourced.

As part of the Air Force's ASOC transformation effort, an air battle manager function and manpower positions already have been added to the ASOC to monitor airspace control and deconfliction and provide command and control expertise for planning and employing air and space power. The air battle manager also is the link to the controlling and reporting centers and the airborne warning and control system (AWACS).

The revised single CP division design contains an ACE with Army airspace managers and en route controllers. Together, they provide the nucleus for an Army-Air Force ACE. The addition of USAF controllers provides the expertise to work with JFACC aircraft.

The ASOC, ACE, air and missile defense (AMD) element and FSC typically are collocated at the division or corps level, providing the linkage between airspace control, fires and air defense. The ASOC has a robust communications capability for controlling assigned aircraft and is linked through the theater battle management core system (TBMCS) to the AOC.

The tactical air integration system (TAIS) that the Army is fielding can provide a near-real-time air picture that includes link-16 and blue force tracker (BFT). Army battle command systems (ABCS) complement the organization by both digitally integrating the air and ground operational picture with airspace and fire control measures (FCMs) and disseminating the data to all units throughout the operational area.

From an Army perspective, using an

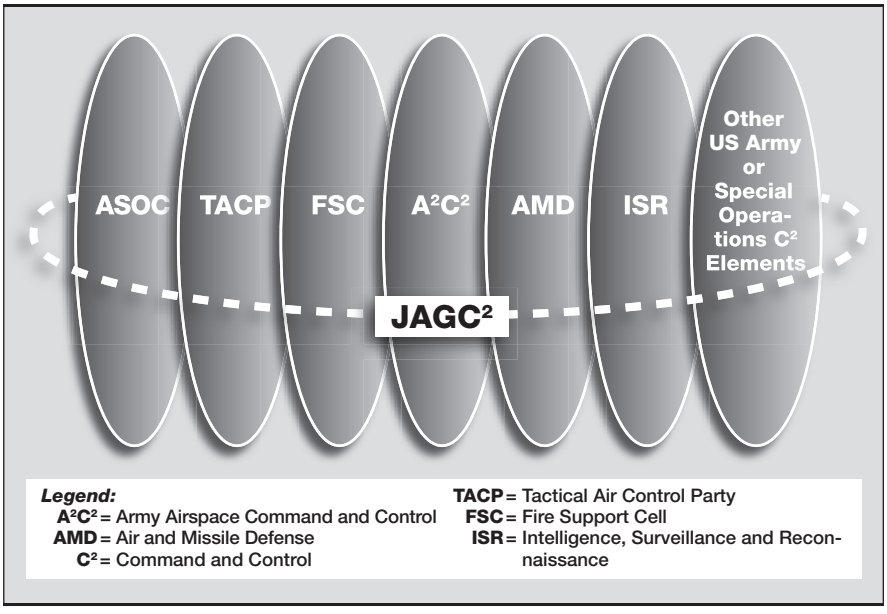


Figure 2: Joint Air-Ground Control Cell (JAGC^2) in the Division or Corps Main Command Post

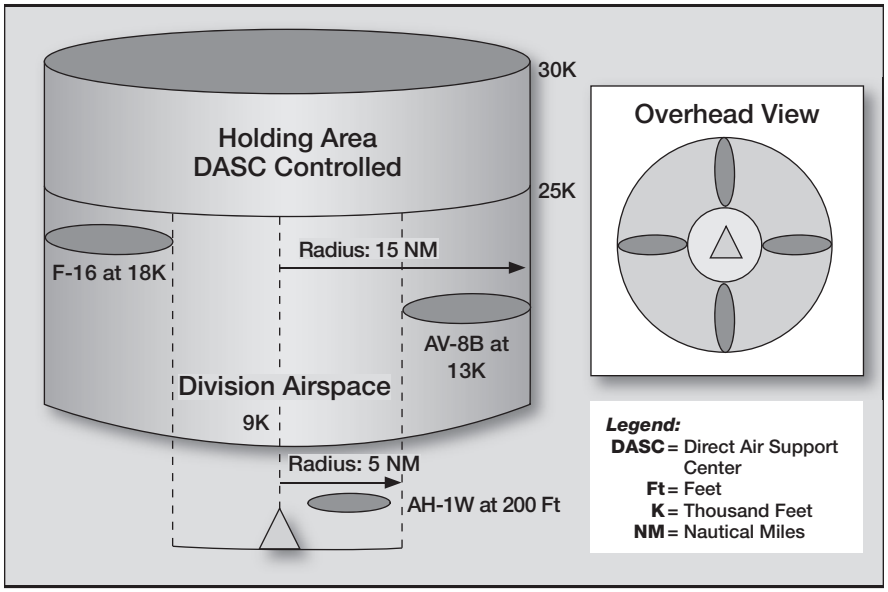


Figure 3: A High-Density Airspace Control Zone (HIDACZ) in the Battle of Fallujah II in Iraq. This HIDACZ was the 1st Marine Division's template for airspace control.

airspace control sector moves decision making down to the lowest practical level, leading to more rapid decisions at the tactical level. For the Air Force, an airspace control sector supports the tenets of centralized planning (by the AOC) and decentralized execution (by the corps or division joint airspace control cell). Further, this joint teaming would "sew up the seam" between the airspace control authority and ground commander's operations.

In the Battle of Fallujah II, a HIDACZ was established around Fallujah with the 1st Marine Expeditionary Force (IMEF) delegated as the airspace control authority. Within the HIDACZ, a 30-nautical-mile diameter airspace cylinder extending to 30,000 feet was established over the town, as shown in Figure 3.

The 3rd Marine Aircraft Wing Direct Air Support Center (DASC) collocated with 1st Marine Division controlled all air activity (fixed- and rotary-wing plus UA assets) within the HIDACZ and within the cylinder from 25,000 to 30,000 feet.[14] Control below 25,000 feet was exercised by joint terminal attack controllers (JTACs) in coordination with the division air officer. This required a level of integration between the DASC, division air officer, UA operators and fire support elements (FSEs) never attempted before.[15]

Fallujah II was an ad hoc command and control system that handled the airspace demands of a hard-fought urban battle within a sizeable airspace control zone delegated to the ground forces by the airspace control authority. Delegation of airspace control provided the ground commander the tactical flexibility to clear airspace rapidly, allocate resources and coordinate and integrate UAs, fires, and rotary- and fixed-wing aircraft.

Dynamic Attack. In the V Corps OIF I 2003 example, the ASOC placed a team in the ACE, opening the way to exploiting many sources of information: corps long-range surveillance detachments (LRSDs), the Army's A^2C^2 element that directed helicopter missions, Hunter and Predator UAs, joint surveillance and target attack radar system (JSTARS) aircraft and other external sources. The ACE (rear), a fixed facility at Al Jaber Air Base, Kuwait, focused on generating targets using national and theater feeds that were passed to the ACE.[16]

According to Lieutenant Colonel Michael B. McGee, 4th EASOG Deputy Commander, targets generated by the ACE rear were passed to the main CP and then funneled to the FECC. The FECC decided to whom to give the targets for prosecution—artillery, rotary wing or ASOC (fixed wing). In OIF I, most went to the ASOC. If the targets were in the division AO, the ASOC passed them to the division to prosecute. If the targets were in the corps AO, the ASOC either executed the prosecution or passed them to the combined air operations center (CAOC) through both the CAS cell and the battlefield coordination detachment (BCD) if the target was beyond the fire support coordination line (FSCL); that didn't happen often because the ACE was focused inside the FSCL.[17]

The ASOC placement allowed it to clear prospective targets easily and quickly via Central Command's (CENTCOM's) collateral damage estimate (CDE) process through which prescribed attacks or weapons effects on targets, such as mosques, hospitals or schools, were to be avoided. Armed with up-to-the-minute target data, the ASOC then directed sorties to targets, not just in direct support of divisions, but throughout the corps AO.

The June 2006 Air Force Virtual Flag exercise was conducted in conjunction with joint fire control measures (JFCMs) joint test and evaluation at the Distributed Mission Operations Center, Kirtland, AFB, New Mexico, and provided a venue to experiment with the $JAGC^2$. An Air Force intelligence officer was collocated with the corps ACE, and one of the corps TACP ALOs was assigned to the ASOC as an air interdiction (AI) coordinator.

The FSE and intelligence element developed targets and established joint fires areas (JFAs), also known as kill boxes. The AI coordinator managed air-delivered fires into the JFAs inside the FSCL and coordinated with the AOC for attack of targets beyond the FSCL. Besides helping develop targets for the JFAs, the Air Force intelligence officer was valuable in keeping updates of maneuver units in or near the JFA and coordinating ISR assets with the AOC to obtain better intelligence resolution.

Under the $JAGC^2$ concept, the cell integrates the functions of existing cells, elements, centers, parties and equipment. In doing so, it breaks down the stovepipes and builds joint integrated command and control structures that preclude the need for ad hoc arrangements. Through decentralization of airspace control and the integration of critical and complex joint intelligence and fires processes, command and control requirements for execution are minimized. In other words, the $JAGC^2$ will place the most firepower accurately on target with less command and control than required by today's centralized structures.

$JAGC^2$—The Way Ahead. $JAGC^2$ was first introduced in the ASOC Enabling Concept signed by the Air Force Chief of Staff on 1 June 2006. It is being introduced into Air Force doctrine as a vignette in *Air Force Doctrine Document (AFDD) 2-1.3 Counterland*.

Work is ongoing with the Training and Doctrine Command (TRADOC) Program Integration Office–Battle Command, Army Airspace Command and

Control and the Army Combined Arms Doctrine Directorate, all at Fort Leavenworth, Kansas, and the Army's Center of Excellence for Joint Fires at Fort Sill, Oklahoma, to introduce the concept and gain consensus. The Air Force Air Combat Command (ACC), headquartered at Langley AFB, Virginia, is exploring future opportunities to experiment with and exercise the concept, such as in Urban Resolve-Future sponsored by the Joint Forces Command to be run out of Suffolk, Virginia, in April 2008.

After gaining consensus for the concept, future joint efforts will define the joint integrated organization, its responsibilities and processes, and its chain of command, the latter either through Army or Air Force channels. The goal is to move and share joint information, make informed decisions and execute air-ground integrated operations more efficiently and effectively.

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Endnotes:

1. For the purpose of this article, the focus is confined to airspace control within the division or corps commander's area of operations and within the fire support coordination line (FSCL).
2. The term "dynamic attack" implies three characteristics: speed, mass and precision. Where speed is always a desired attribute, mass and precision may be unique characteristics or used in combination. For example, speed and mass; speed and precision; or speed, mass and precision may be employed in combination.
3. Rebecca Grant, "The Clash of the UAV Tribes," *Air Force Magazine,* September 2005 (Arlington, VA: Air Force Association).
4. Russ Mitchell, "The Pilot, Gone. The Market Huge." *The New York Times*, 31 March 2002 (New York, NY: The New York Times Company).
5. Colonels Gary S. Kinne, John A. Tanzi and Jeffrey W. Yaeger, "FA PGMS: Revolutionizing Fires for the Ground Force Commander," *Field Artillery,* May-June 2006 (Fort Sill, OK: US Army Field Artillery School).
6. Comments on JAGC^2 Concept paper by LTC Roy Lembke, 4th Infantry Division G3 Aviation Chief to the author, email, dated 18 July 2006.
7. Charles E. Kirkpatrick, "Joint Fires as They Were Meant to Be: V Corps and the 4th Air Support Operations Group During Operation Iraqi Freedom, "*The Land Warfare Papers, No 48*, (Washington, DC: Association of the US Army), October 2004, 2.
8. Ibid, 4.
9. Ibid, 3.
10. Ibid, v.
11. Corps and division headquarters habitually have aligned tactical air control parties (TACPs). On the other hand, the air support operations center (ASOC) is a command and control center that normally is collocated with the senior tactical fire support cell (FSC).
12. Interview with Brigadier General Richard P. Formica, former Commander of the Force FA Headquarters and Joint Fires and Effects Coordinator for the MultiNational Corps Iraq (MNC-I), "Part 1: Joint Effects for the MNC-I in OIF II" by Patrecia Slayden Hollis, *Field Artillery*, May-June 2005 (Fort Sill, OK: US Army Field Artillery School).
13. Meeting with Captain Rudy Cancino, Chief of Combat Airspace at the Combined Air and Space Operations Center, Nellis (CAOC-N), Nellis AFB, NV, 12 July 2006.
14. LtCol Keil R. Gentry, USMC, "RCT-1 Fires in the Battle of Fallujah," *Field Artillery,* November-December 2005 (Fort Sill, OK: US Army Field Artillery School).
15. Interview with Major Dawn Ellis, Direct Air Support Center (DASC) Officer, Headquarters, US Marine Corps, Department of Aviation, Command and Control Branch, Office of Transition Task Force, 8 September 2006.
16. Charles E. Kirkpatrick, 4.
17. LtCol Michael B. McGee, Deputy Commander of 4th Air Support Operations Group (ASOG) that worked with V Corps during OIF I; email to the author, 6 June 2006.

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A Soldier from the 2nd Infantry Brigade Combat Team (IBCT), 2nd Infantry Division, watches for simulated insurgents during a training scenario at the National Training Center, Fort Irwin, California, 23 July 2006. The 2nd IBCT was training in preparation for an upcoming deployment to Iraq. (Photo by MSG Johancharles Van Boers)

FSCOORD's Manning, Equipping and Training Challenges for Fire Supporters in the BCT

By Major Christopher W. Wendland

Today's brigade combat team (BCT) fire support coordinator (FSCOORD) faces many new challenges commensurate with BCT transformation and the evolving roles of fire supporters in the Field Artillery. The BCT's FSCOORD (traditionally the title applied to the direct support FA battalion commander) is now applied to the FA lieutenant colonel billet on the brigade staff—one of three lieutenant colonels on the BCT staff (executive officer, or XO, and the S3 are the other two).

The FSCOORD is responsible for properly manning, equipping and training all fire support personnel in the brigade on both traditional fire support tasks as well as non-traditional civil-military operations (CMO) and information operations (IO) tasks. He also builds a fusion cell in the BCT headquarters, the fire support cell (FSC). This FSC is comprised of traditional lethal fires and the Air Force tactical air control party (TACP) personnel and integrates IO, CMO, public affairs (PA) and the staff judge advocate (SJA) personnel and functions.

In these changing times, the FSCOORD must develop methods to work with maneuver commanders and their senior NCOs to seamlessly integrate all fusion cell enablers from the brigade to the platoon levels by way of the maneuver battalion fire support channels in support of an evolving brigade campaign plan.

To help current and future FSCOORDs, this article explains the processes and challenges within the fire support channels of the 2nd Infantry BCT (IBCT), 2nd Infantry Division (2nd ID), Fort Carson, Colorado, during the last 10 months as it prepared for its Operation Iraqi Freedom (OIF) deployment.

Transformation. In 2004, the 2nd IBCT, 2nd ID, deployed to Iraq from Korea. After a one-year tour, the unit deployed to Fort Carson in August 2005. Soon after, the brigade began transforming from a heavy brigade to a modular IBCT. With restructuring, reflagging and the introduction of six new battalion commanders and one new brigade commander, "muddy boots" training did not begin until January 2006. Part of this restructuring included the movement of all fire support personnel

from the fires battalion to their respective maneuver battalions.

The new modified table of organization and equipment (MTOE) for the IBCT has a battalion FSC in both the BCT's infantry battalions and in the reconnaissance, surveillance and target acquisition (RSTA) battalion. (See Figures 1, 2 and 3, the latter two on Pages 20 and 21, respectively.) In addition to the FSCs, each battalion also has a fires platoon made up of three to four company-level fire support teams (FISTs) along with their respective forward observers (FOs). Even the brigade special troops battalion is allocated three fire support personnel to augment its S3 shop: an E7 (battle staff), E6 and E5.

Headquarters and Headquarters Company (HHC), 2nd IBCT, has a robust brigade FSC led by the IBCT FSCOORD that includes four combat observation lasing teams (COLTs) and a nonlethal effects cell.

In the transformation process, the 2nd IBCT maneuver units were eager to accept their fire supporters. Each maneuver battalion then dissolved its fires platoons and quickly attached each company FIST down to its companies.

The challenge is evident. How does the BCT FSCOORD ensure all fire support personnel are adequately manned, equipped and trained to support the traditional fire support mission as well as the nontraditional IO and CMO missions?

The answer is "*Carefully*."

Manning. In the 2nd IBCT, the fires battalion commander, in conjunction with the brigade commander, coordinates all FA officer moves. The FSCOORD makes recommendations, but the fires battalion commander decides which officer in the BCT enters or leaves the fire support world and which enters or leaves the artillery world.

Initially this was a sticking point with maneuver battalion commanders who inadvertently may have approved personnel actions (branch transfers, career course attendance, etc.) for "their" FA officers without consulting with the fires battalion commander. Also maneuver commanders become attached to their FA officers and may not want to lose them when the fires battalion commander, for example, thinks an officer's movement to the fires battalion is optimal for the officer's career progression.

Enlisted personnel manning is more problematic. In the 2nd IBCT, the fire support operations NCO (senior 13 series NCO in the BCT FSC) works closely with the brigade command sergeant major (CSM) to recommend enlisted sourcing to specific battalions for inbound gains and also recommends senior NCO moves for professional development.

We've found that the maneuver battalion CSMs are very concerned about their fire support NCOs and Soldiers, especially in reference to moves for NCO professional development, i.e., moving an NCO to a COLT at brigade or moving a promotable sergeant to another battalion to assume the role of company fire support NCO. We've found that a move is facilitated when the final decision comes from brigade CSM to the maneuver battalion CSM.

A unique challenge with the new MTOE structure is the battalion FSC NCOs often are not fulfilling their roles as platoon sergeants because their platoon is dispersed throughout the maneuver company. In addition, these FSC NCOs have limited visibility of their company fire support NCOs and platoon FOs. This makes fire support mentoring from senior NCO to junior NCO extremely difficult.

Equipping. If you are a new BCT FSCOORD, don't assume everyone follows the MTOE. The allocation of fire support personnel down to the company level causes additional friction because fire support equipment comes from the battalion's HHC MTOE authorizations. Without proper coordination, usually the FSCOORD's face-to-face meeting with a battalion XO, equipment intended for a battalion FSC, company FIST or platoon FO team may never make it to the intended user—especially optics, vehicles and radios.

The MTOE may address the need, but the maneuver commander at the battalion or company level can quickly reassess

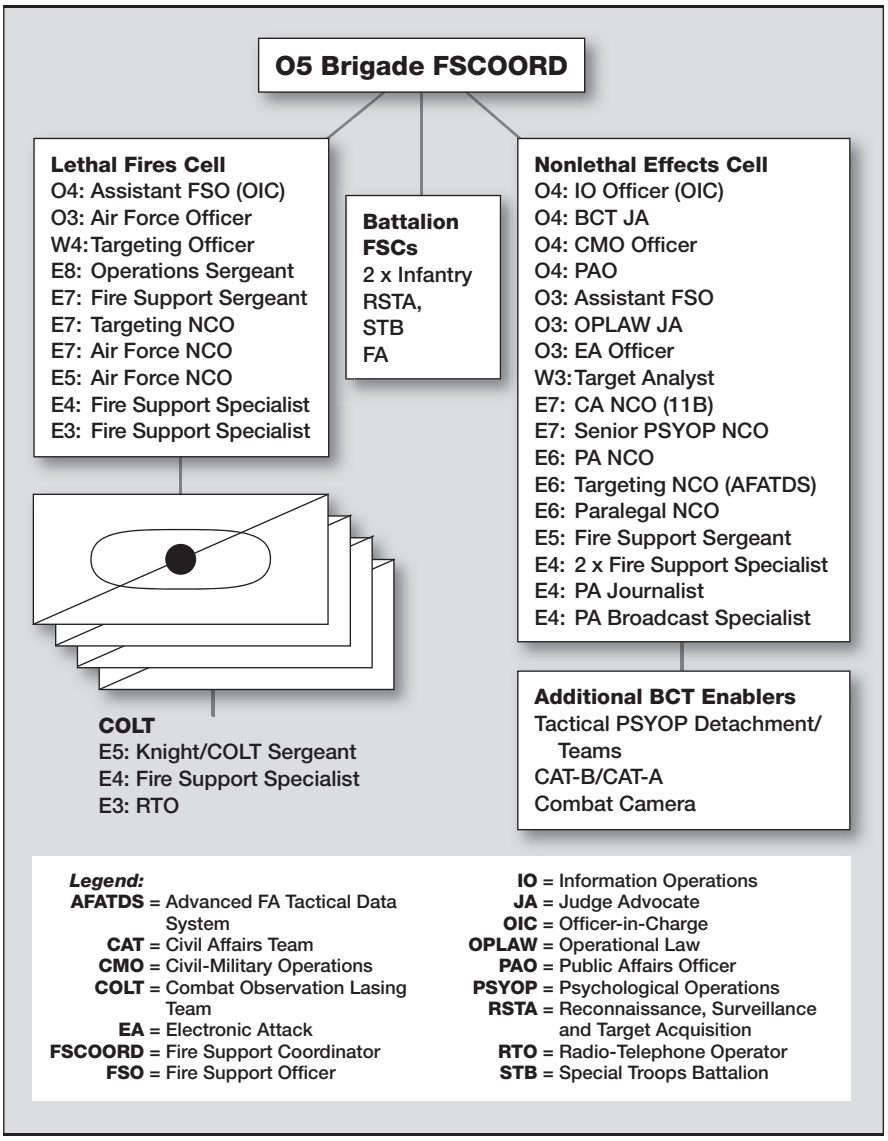


Figure 1: Brigade Combat Team (BCT) Fire Support Cell (FSC)

the need to fit his mission. On more than one occasion, unless the FSCOORD was specific about radio/vehicle/optic requirements, FISTs arrived at a training event under-equipped.

Training. Training is more of a challenge today because fire support personnel are expected to know their traditional roles (calling for and adjusting indirect fires) as well as their non-traditional roles (understanding and implementing IO and CMO). All this training must occur in the BCTs new decentralized structure.

Coordinating the training for fire support personnel in 11 separate maneuver companies and five headquarters companies can be problematic. Early planning solves many problems. When the FSCOORD works closely with the BCT S3 to ensure all training is included on the long-range training calendar and is followed up with an operations order (OPORD) or fragmentary order (FRAGO), most personnel attend.

As the FSCOORD, I focused the BCT training into three quarters. First quarter (January to March) was dedicated to the 13F Fire Support Specialists' validating their traditional fire support tasks. Second quarter (April-June) was dedicated to IO/civil affairs (CA) training and the employment of both lethal fires and nonlethal effects in maneuver platoon- and company-level operations. Third quarter (July-September) was dedicated to establishing the brigade FSC and systems to fuse all the BCT enablers (lethal fires, TACP, IO, CMO, PA and SJA) in support of brigade- and battalion-level operations at the National Training Center (NTC), Fort Irwin, California. We then took those lessons learned to develop a refined azimuth to prepare for the deployment.

Always a Fire Supporter. First quarter trained the fire support fundamentals. Each company FIST underwent an arduous certification process composed of a written test, guard unit armory device, full-crew interactive simulation trainer (GUARDFIST); and pre-combat checks (PCCs) and pre-combat inspections (PCIs); followed by an exercise in dismounted military operations in urban terrain (MOUT).

We conducted the certification exercise on Fort Carson's main post and had the opposing force (OPFOR) dress in civilian clothes and drive around in privately owned vehicles (POVs) to blend in with the local population. We tested each team's observation and situational awareness abilities as well as their fundamental fire support skills. A compass, binoculars, radio, map and heavy rucksack were the only authorized items for this certification.

After FIST certifications, in February, we took all the FISTs and FO teams to Fort Sill, Oklahoma, for a week of joint fires and effects simulator training. Building on their FIST certification, the teams were ready to use the new simulators and video after-action review (AAR) facilities to drill further on their fire support fundamentals.

In conjunction with this training, the BCT and battalion FSCs received their new advanced FA tactical data system (AFATDS) tadpoles and effects management tool (EMT) new equipment training (NET) while the BCT fires battalion was fielded its M119A2 howitzers. These events set the conditions for the BCT's first artillery live-fire exercise in March, finishing the quarter with all fire supporters trained and validated.

IO and CMO. Second quarter trained IO and CMO skills. Building on the current operations in theater, we provided IO and CA training to each maneuver battalion FSC and maneuver company FIST, including those in the BCT's fires battalion and two line batteries. (The fires battalion transitioned its battalion FDC to into an FSC after it was determined it would perform as a maneuver mission in theater.)

Our brigade and battalion FSC leadership took advantage of the 1st Cavalry Division's mobile training team (MTT) from the 1st IO Command at Fort Belvoir, Virginia, while battalion targeting officers and company fire support officers (FSOs) took Fort Sill's three-week Tactical IO Course. The BCT had the 1st IO Command's MTT at Fort Carson in late May for fire support personnel new to the

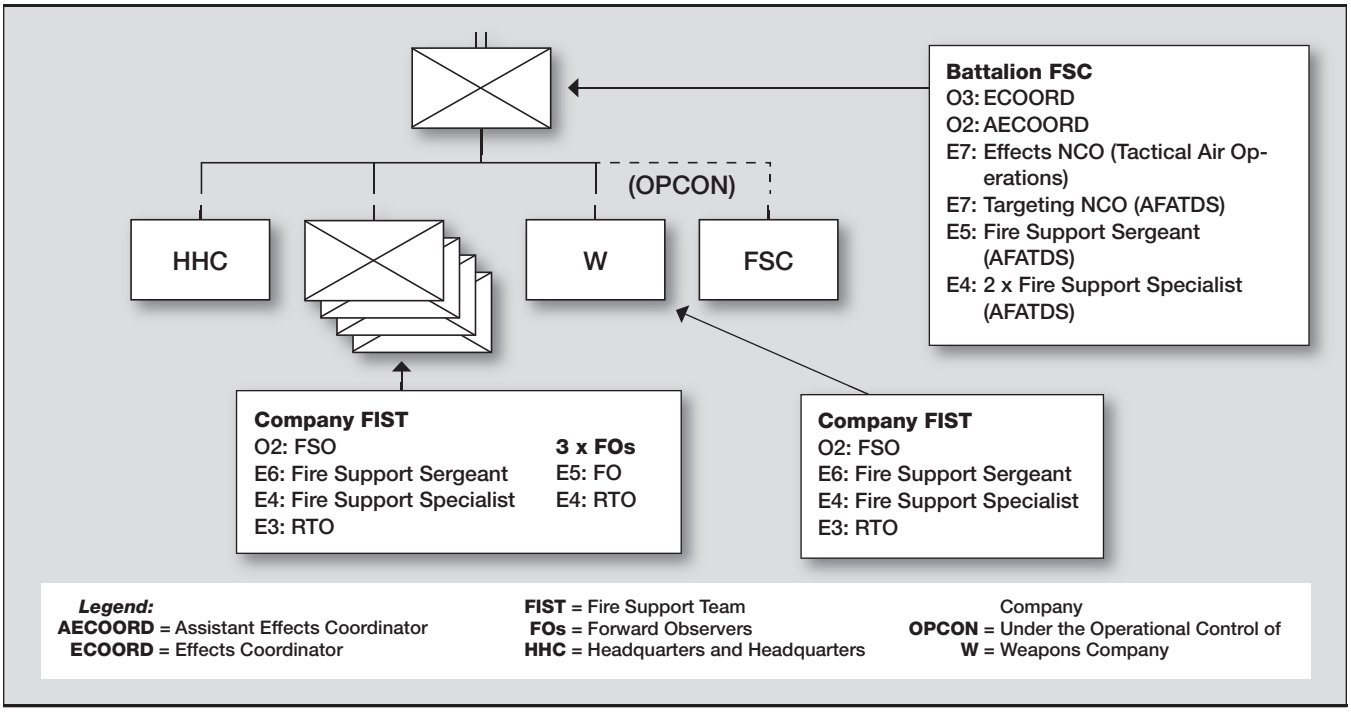


Figure 2: Fire Support Personnel in the BCT Infantry Battalions. In the 2nd Infantry BCT (IBCT), 2nd Infantry Division (2ID), at Fort Carson, Colorado, they are the 1st Battalion, 9th Infantry (1-9 IN) and 2-12 IN.

BCT. We provided additional IO training down to the battalion level during this time frame, including electronic warfare (EW) training (EC-130H and EA-6B) to one member of each maneuver battalion FSC at the Navy's Electronic Warfare Officer (EWO) School in Whidbey Island, Washington.

To exploit this training, the BCT conducted a pre-NTC mission rehearsal exercise (MRE) at Fort Carson. One of the training modules was designed around integrating IO at the company level. Also, to retain the fundamental fire support skills learned in the first quarter, another training module included kinetic operations in which each company conducted both day and night MOUT raids with live close air support (CAS), artillery and mortar fires. The BCT provided both the CAS and artillery in direct support roles to each of the evaluated maneuver battalions.

Development and Integration of the Brigade FSC. Third quarter's focus was on developing the BCTs FSC and integrating this cell with the battalion FSCs down to the company FIST and platoon FO levels. Most nonlethal staff enablers did not arrive until just before the July NTC rotation. The challenge was to integrate them into a cohesive group without inundating the battalion FSCs with new requirements initiated by such a robust brigade staff.

Today's Challenges and the Way Ahead. Today's FSCOORD coordinates and synchronizes all efforts within the FSC and integrates those efforts with the BCT S2 for collection assets and the BCT S3 to ensure required actions are supported in daily FRAGOs. The BCT FSC fuses all enablers, including the battalion FSCs that provide the linkage from the Soldiers on patrol to the BCT for further analysis and integration into future operations.

The battalion FSC is more robust than the pre-transformation battalion fire support element (FSE), and its functions are much more complicated. Maneuver commanders today expect their battalion and company FSOs to understand IO and CMO. Aside from a few classroom hours in the schoolhouse, most FSOs (and NCOs) were unaware of their new nonlethal role, unless they recently redeployed from OIF or Operation Enduring Freedom (OEF).

The brigade has an IO officer, a CMO officer, a PA officer (PAO) and an SJA among many other functional area specialists. These positions are not replicated at the battalion or company level. The FSCOORD coaches and mentors his battalion FSC personnel to understand and implement these new functions daily on today's battlefield.

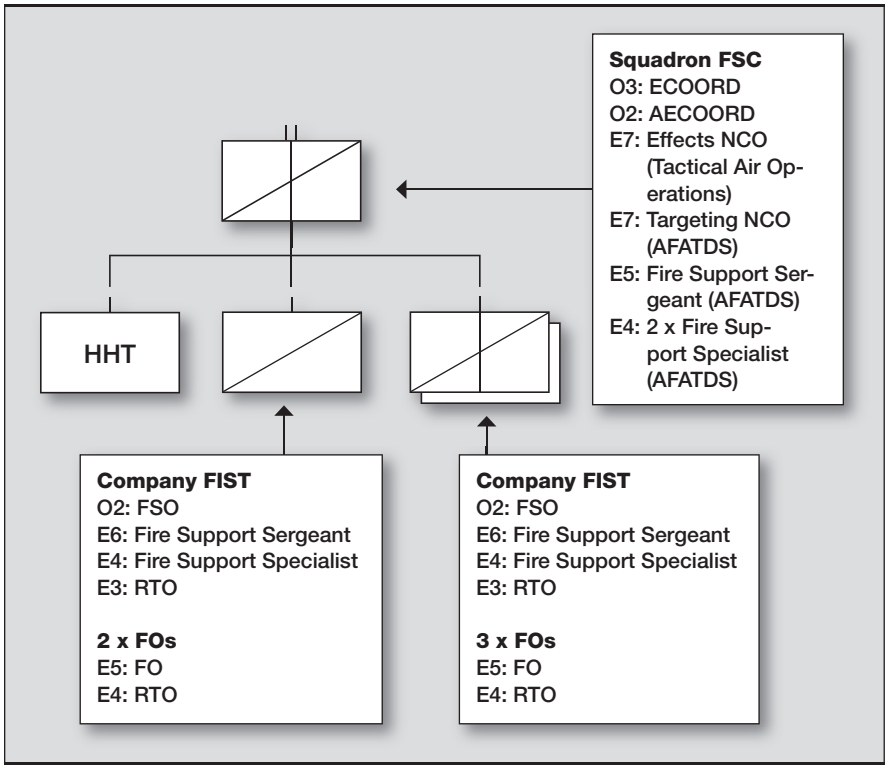


Figure 3: Fire Support Personnel in the RSTA Squadron. In the 2nd IBCT, 2ID, the squadron is 3-61 Cav.

In theater, every company or battalion operation will require some sort of bilateral negotiation, IO application, possible damage claim to a local civilian, quick-turn anti-propaganda story or exploitation of a recent success in the company or battalion area of operation (AO). All are synchronized by the battalion FSC or company FIST. These FISTs provide data from their FOs attached to each maneuver platoon up to the brigade FSC. The BCT experts analyze the data and produce products for the battalion, keeping the BCT focused on the overall campaign plan.

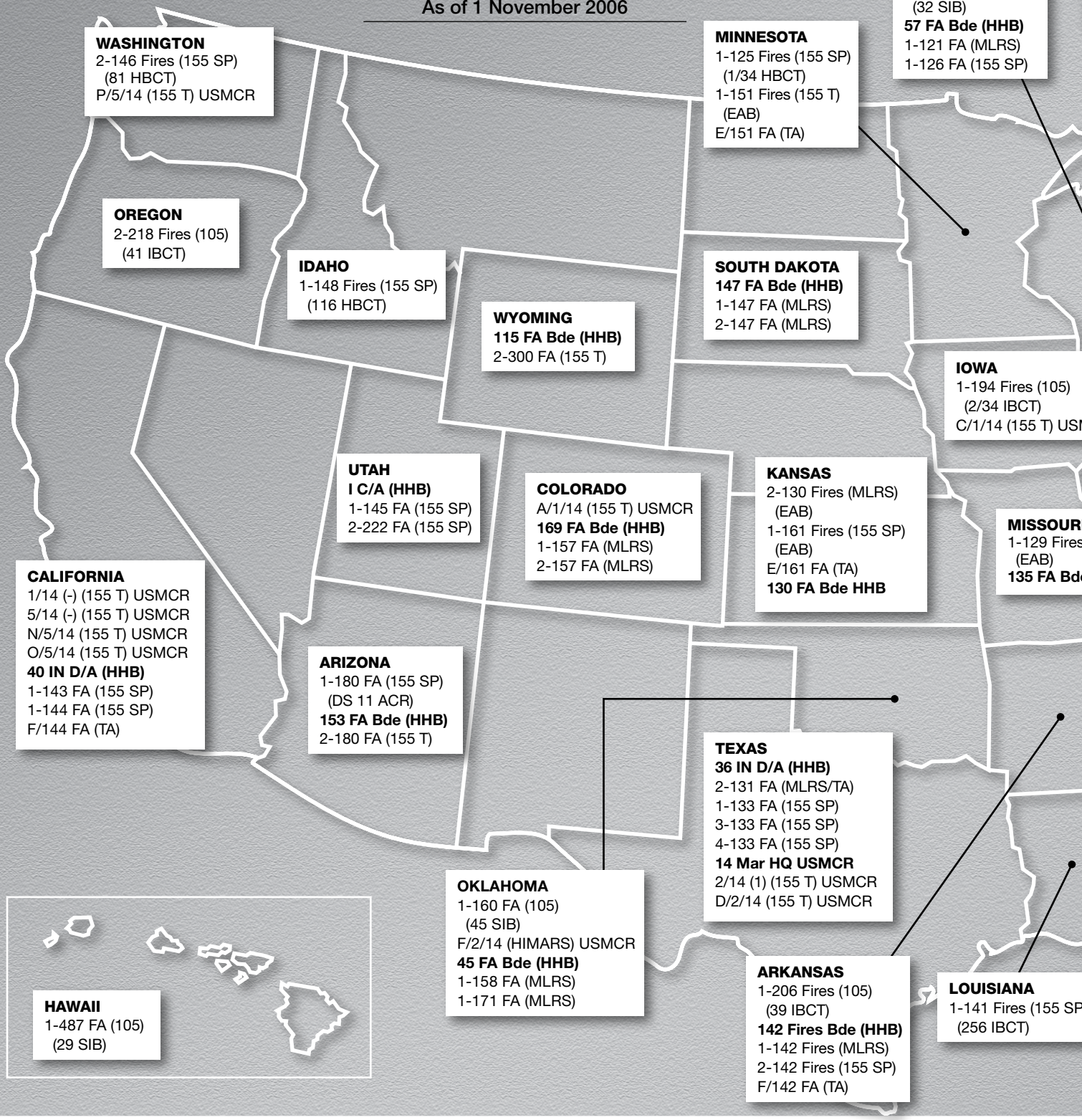
The 2nd IBCT is ready for our future deployment. The *Strike Force* fire supporters are practiced in the fundamentals of integrating lethal fire support from traditional artillery and mortar. This training included employing precision munitions, such as CAS and guided multiple-launch rocket system unitary (GMLRS-U) in an environment respectful of collateral damage. Our fire supporters are also rehearsed in the practical application of IO and CMO at the tactical level. Our battalion FSCs are integrated with the brigade FSC and have rehearsed the process of turning complex data from the maneuver company FISTs into an analyzed and synchronized product for future operations in concert with the brigade's campaign plan.

The BCT FSCOORD, charged with some new responsibilities and a new decentralized manning, equipping and training structure, has many challenges that require careful and dedicated coordination across the BCT and the successful coaching and mentoring of junior maneuver and artillery officers as the new modular BCTs continue to take shape.

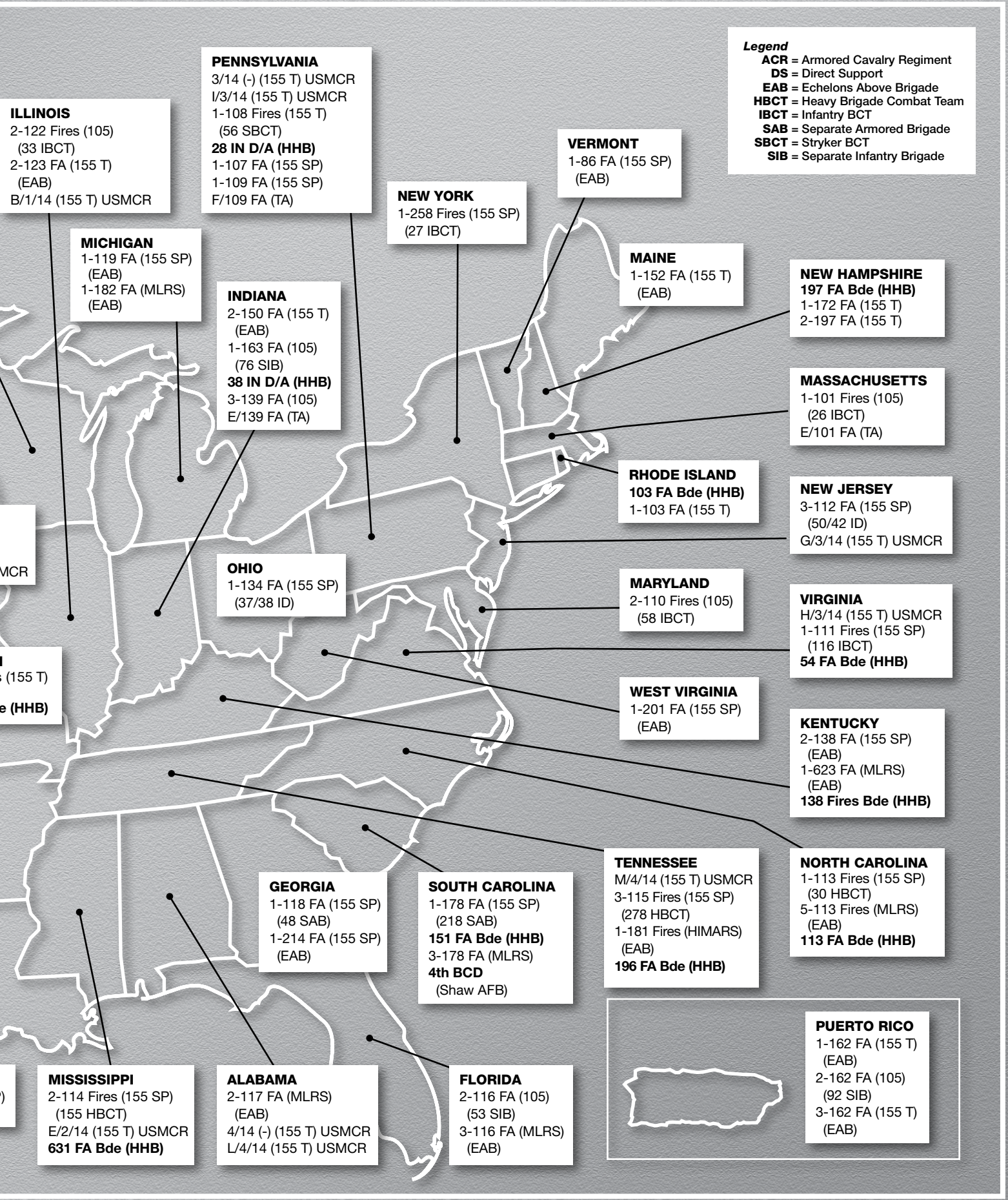
Major Christopher W. Wendland is the Brigade Fire Support Coordinator (FSCOORD) for the 2nd Infantry Brigade Combat Team (IBCT), 2nd Infantry Division, from Fort Carson, Colorado, that recently deployed to Iraq. In his previous assignments, he was a Fire Support Officer, Fire Direction Officer, Firing Platoon Leader and Service Battery Executive Officer with 4th Battalion, 1st Field Artillery (4-1 FA), 1st Armored Division, at Fort Riley, Kansas; the Combined/Joint Forces G3 Deep Operations Division Fire Support/Direction Officer in Seoul, Korea; and a Battalion S2, Maintenance Officer and Battery Commander with 1-27 FA, 41st FA Brigade, in Germany. During Operation Iraqi Freedom I, he commanded Headquarters and Headquarters Battery, 41st FA Brigade, V Corps Artillery. He holds a Master of Science in Space Systems Operations from Webster University.

Army National Guard and Marine Reserves

As of 1 November 2006

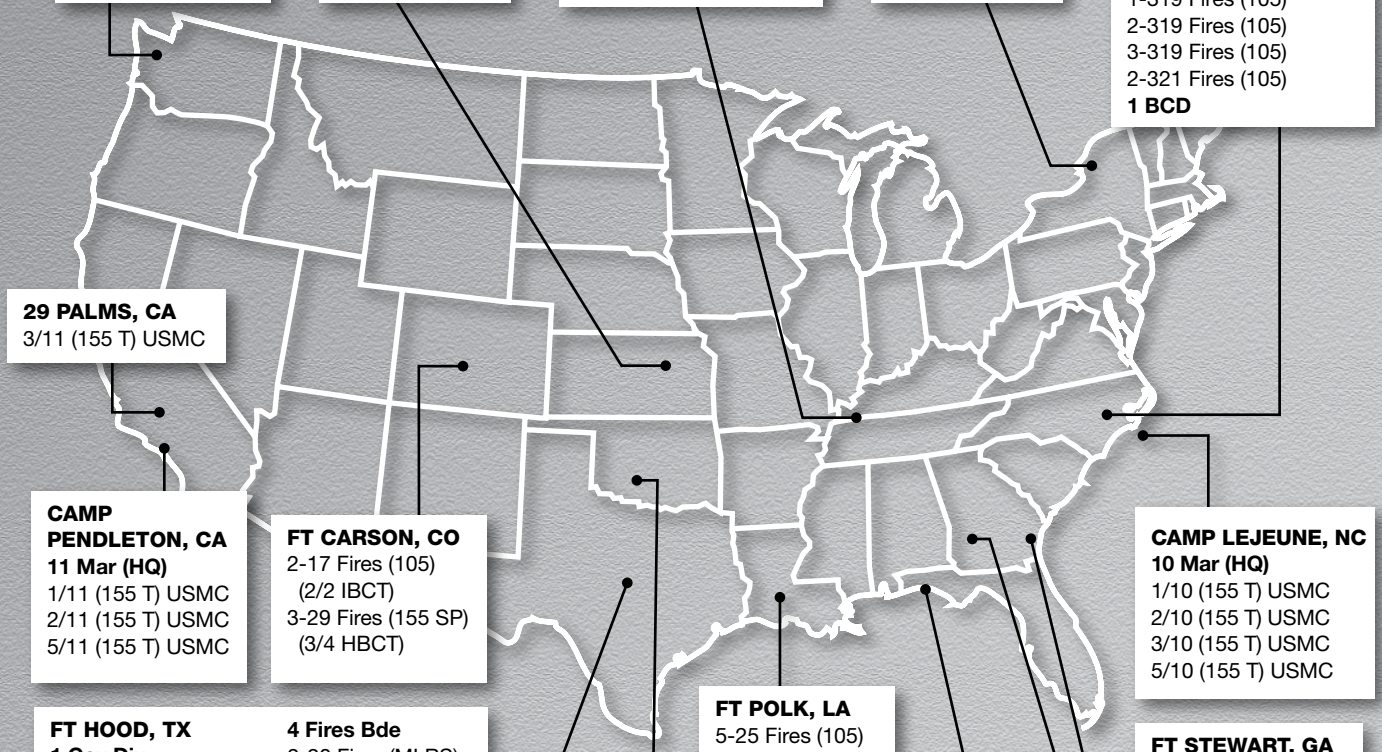


Map Source: MAJ Jim Kopko, Force Structure, Futures Development Integration Center. Send corrections to: james.kopko@conus.army.mil.



Active Army and Marine Units in CONUS

As of 1 November 2006



FT LEWIS, WA
2-12 Fires (155 T)
(4/2 SBCT)
1-37 Fires (155 T)
(3/2 SBCT)

FT RILEY, KS
1-5 FA (155 SP)
(1/1 ID)
2-32 Fires (105)
(4/1 IBCT)

FT CAMBELL, KY
101 Abn Div (AA)
1-320 Fires (105)
2-320 Fires (105)
3-320 Fires (105)
4-320 Fires (105)
C/1-377 FA (AA) (155 T)

FT DRUM, NY
10 Mtn Div
3-6 Fires (105)
2-15 Fires (105)
4-25 Fires (105)

FT BRAGG, NC
XVIII Abn C/A (HHB)
18 FA Bde (Abn) (HHB)
3-27 FA (HIMARS)
1-321 FA (Abn) (155 T)
3-321 FA (155 T)
1-377 FA (AA) (-) (155 T)
82 Abn Div
1-319 Fires (105)
2-319 Fires (105)
3-319 Fires (105)
2-321 Fires (105)
1 BCD

29 PALMS, CA
3/11 (155 T) USMC

CAMP PENDLETON, CA
11 Mar (HQ)
1/11 (155 T) USMC
2/11 (155 T) USMC
5/11 (155 T) USMC

FT CARSON, CO
2-17 Fires (105)
(2/2 IBCT)
3-29 Fires (155 SP)
(3/4 HBCT)

CAMP LEJEUNE, NC
10 Mar (HQ)
1/10 (155 T) USMC
2/10 (155 T) USMC
3/10 (155 T) USMC
5/10 (155 T) USMC

FT POLK, LA
5-25 Fires (105)
(4/10 IBCT)

FT HOOD, TX
1 Cav Div
1-82 Fires (155 SP)
2-82 Fires (155 SP)
3-82 Fires (155 SP)
4 IN Div
3-16 Fires (155 SP)
4-42 Fires (155 SP)
2-77 Fires (155 SP)
4 Fires Bde
2-20 Fires (MLRS)
1-21 Fires (MLRS)
A/26 FA (TA)
589 BSB
3 ACR
How/1-2 ACR
How/2-2 ACR
How/3-2 ACR

FT STEWART, GA
3 IN Div
1-9 Fires (155 SP)
1-41 Fires (155 SP)
1-76 Fires (155 SP)

FT BLISS, TX
5-82 Fires (155 SP)
(4/1 Cav HBCT)

FT SILL, OK
17 FA Bde (HHB)
5-3 FA (MLRS)
1-12 FA (MLRS)
75 Fires Bde (HHB)
C/26 FA (TAB)
100 BSB
3-13 FA (MLRS
1-17 FA (155 SP)
2-18 FA (MLRS)
6-27 FA (MLRS)
1-77 FA (MLRS)
212 FA Bde (HHB)
6-32 FA (MLRS)
214 Fires Bde (HHB)
H/26 FA (TAB)
168 BSB
2-4 FA (MLRS)
2-5 FA (155 SP)
1-14 FA (MLRS)
USAFATC (HHB)
1-19 FA
1-22 FA
1-40 FA
1-79 FA
95 AG (Rec)
USAFAS
30 FA Regt
2-2 FA (105)
1-30 FA
1-78 FA

FT BENNING, GA
1-10 Fires (155 SP)
(3/3 HBCT)

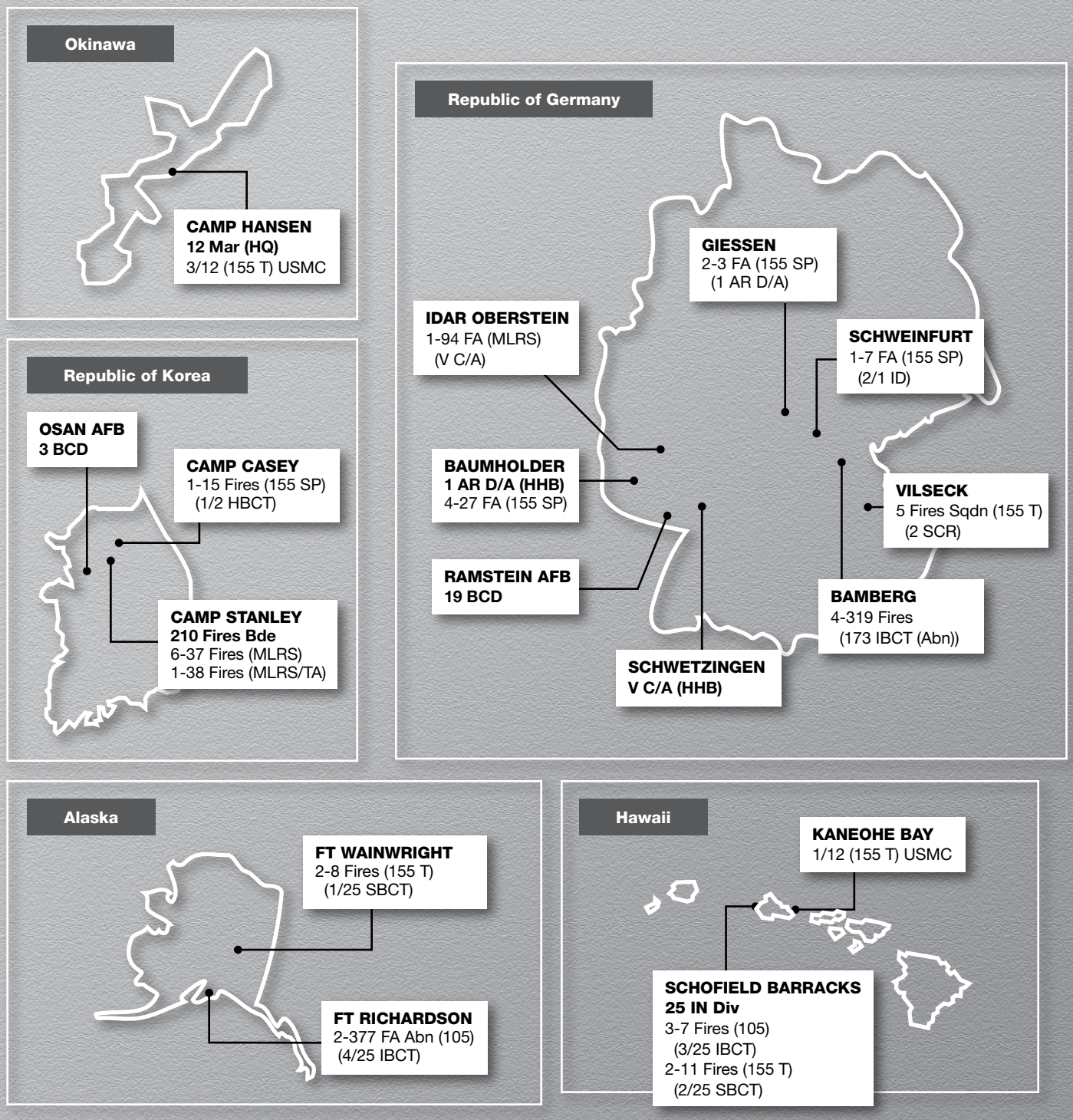
HURLBURT FIELD, FL
2 BCD

BSB = Brigade Support Battalion
HIMARS = High-Mobility Artillery Rocket System
HBCT = Heavy Brigade Combat Team
IBCT = Infantry BCT
SBCT = Stryker BCT
SCR = Stryker Cav Regiment

Map Source: MAJ Jim Kopko, Force Structure, Futures Development Integration Center. Send corrections to: james.kopko@conus.army.mil.

Active Army and Marine Units in OCONUS

As of 1 November 2006



A Soldier hands a flier to a driver in Kirkuk, Iraq, 3 March 2006. The flier requests residents to contact the Iraqi police or US personnel with any information about insurgent weapon caches or safe houses.
(DoD Photo by Navy Journalist 1st Class (JO1) Jeremy L. Wood)

How to Visualize and Shape the Information Environment

By Major Erin A. McDaniel and Captain Julio A. Perez

During the early stages of Operation Iraqi Freedom (OIF), commanders were skeptical of the importance of integrating information operations (IO) into day-to-day operations in theater. At the time, few commanders and leaders realized the impact IO could have on the local population and how critical it could be to mission success.

To illustrate this point, we use the scenario of a brigade combat team (BCT) cordon and search mission in the beginning of Phase IV of OIF I. The BCT, which was organized and trained for conventional combat operations, conducted a cordon and search over a large area near Baghdad.

The mission required the BCT to search 1,200 Iraqi homes. With no plan to influence the populace, the BCT searched the homes, confiscated one rocket-propelled grenade (RPG) and 10 AK-47s and detained two citizens suspected of supporting terrorists. No evidence established that the two suspects were networked with any insurgency cell. Possessing an AK-47 technically is illegal; however, AK-47s in Iraqi neighborhoods are as common as shotguns in the average American home. Possessing the RPG is illegal; however, ownership was difficult to prove.

The mission was planned and executed without considering the impact on the populace and, therefore, the operational environment.[1] The cordon and search left the Iraqi community leaders confused and distrustful of the Coalition Forces.

Initially, the BCT considered the mission successful as it garnered illegal weapons. But, in fact, the mission was unsuccessful in the eyes of the locals. What was gained militarily was lost in the populace's trust and future cooperation.

Integration of IO into day-to-day operations in theater has improved significantly in the last few years. However, we have not fully leveraged IO's enormous capacity in contemporary battle command.

IO Today. Integrating IO into the battle command process requires intensive staff input to visualize, describe, direct, lead and assess the effect of IO. Educating leaders on integrating IO at the tactical level is now part of the curriculum at the Fires Center of Excellence at Fort Sill, Oklahoma.

The new three-week Tactical IO Course provides the basic tactics, techniques and procedures (TTPs) for commanders and their staffs to integrate IO into battle command. The course teaches planners how to visualize and describe the information environment, use IO to shape the information environment and assess the effectiveness of IO. It includes data from the latest after-action reviews (AARs) at the Army's combat training centers (CTCs) and lessons learned from units fresh out of theater.

BCTs sometimes struggle to implement IO effectively. In many cases, IO becomes a reactive measure designed to mitigate consequences rather than a deliberate process to shape the information environment.

Today, the IO battle of ideas requires more "bytes than bullets." The military can achieve this by using the science of IO to focus on decision making in the physical environment and using the art of IO to shape the information environment. IO can be as complicated or as simple as one makes it.

Conceptualizing the IO Environment. One of the first challenges commanders face after receiving a mission is to visualize the operational environment. Understanding the adversary's capabilities, intentions, strengths and vulnerabilities is critical. However, the commander also must be cognizant of the impact of his unit's interaction with the adversary and the populace within the information environment.

For any operation, analyzing all factors is fundamental: mission, enemy, terrain and weather, troops, time available and civil considerations (METT-TC). These factors also must be considered as they relate to the information environment. For a commander to analyze his battlespace effectively in terms of the information environment, he must have the answers to the questions in Figure 1.

FM 3-13 Information Operations: Doctrine, Tactics, Techniques and Procedures defines the information environment as "the aggregate of individuals, systems or organizations that collect, process and disseminate information. Also included is the information itself." The information environment has three interrelated dimensions: physical, cognitive and information. See Figure 2.

Physical Domain. The physical domain comprises the information infrastructure, including the communications infrastructure, media, Internet, word-of-mouth and rumors.

The physical domain illustrates what is real. To help the commander visualize his information environment, critical infrastructure, such as mosques, schools, police stations, markets and radio stations, should be treated as key terrain. Relationships between events and critical infrastructure are important and rarely coincidental.

Key sites on planning maps help the commander visualize his area of operations (AO). For example, he can see concentrations of Sunni mosques or know immediately if there is a school near the latest report of a vehicle-borne improvised explosive device (VBIED) attack. Maps that illustrate this information can be used in command posts, on presence patrols or during the military decision-making process (MDMP).

While the commander's platoon, company and battalion leaders may be able to navigate to these sensitive locations "in their sleep," maps and overlays with key locations are vital planning tools for higher staffs that lack the situational awareness of those working in and around the key sites on a routine basis.

Media and other elements of the information environment directly affect the physical domain of the operational environment. When dealing with the media, leaders should attempt to leverage local venues rather than the Western press to publicize information or news relevant to the local populace.

The media tends to focus on the sensational. For example, it is visually easier and more sensational for the media to portray the people's disgust with the dirty, ugly, demolished building in their market place versus portraying the documented decrease of violence affiliated with insurgents in the same location. Perceived biased reporting is not always the media's fault; often it is the result of Coalition Forces' failing to recognize what is important and convey it to the population or the media audience.

The human dimension is the most difficult to comprehend. To grapple with this challenge, most BCTs have implemented an effects-based approach that analyzes the effects of their operations on the interrelated entities.

A caution in understanding the human dimension—some units generalize about the populace. One of the most common Western generalizations is that "Arabs are Arabs" or "Iraqis are Iraqis." But the truth is that colloquial traditions, cultures and languages are so varied, that it is like saying, "New York City is New Orleans." The people in New Orleans use a different vocabulary, have differ-

- How does the population in the area of operations (AO) get its information?
- What events will influence the populace's decision making?
- What anti-Coalition actions are shaping the information environment?
- How can we influence the local population's perceptions, decision making and behavior?

Figure 1: Commander's Analysis of the Battlespace in Terms of Information Operations (IO)

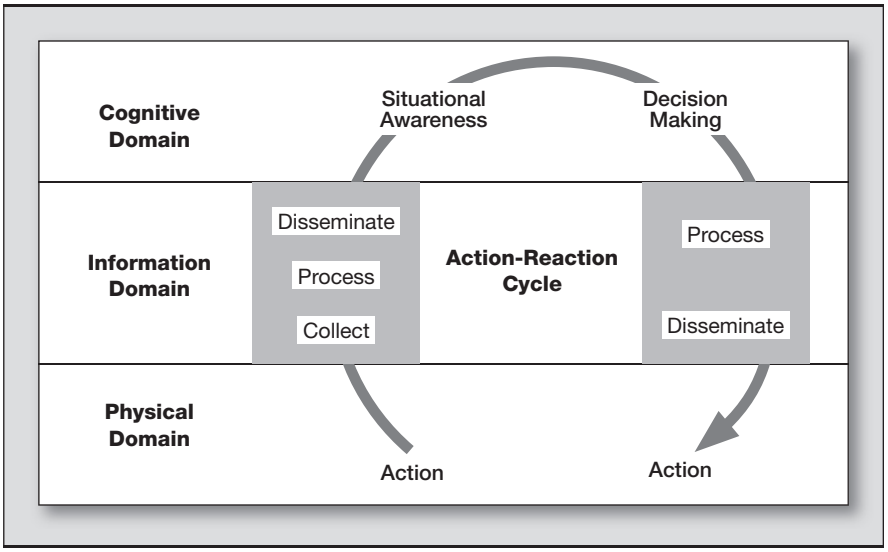


Figure 2: The Information Environment

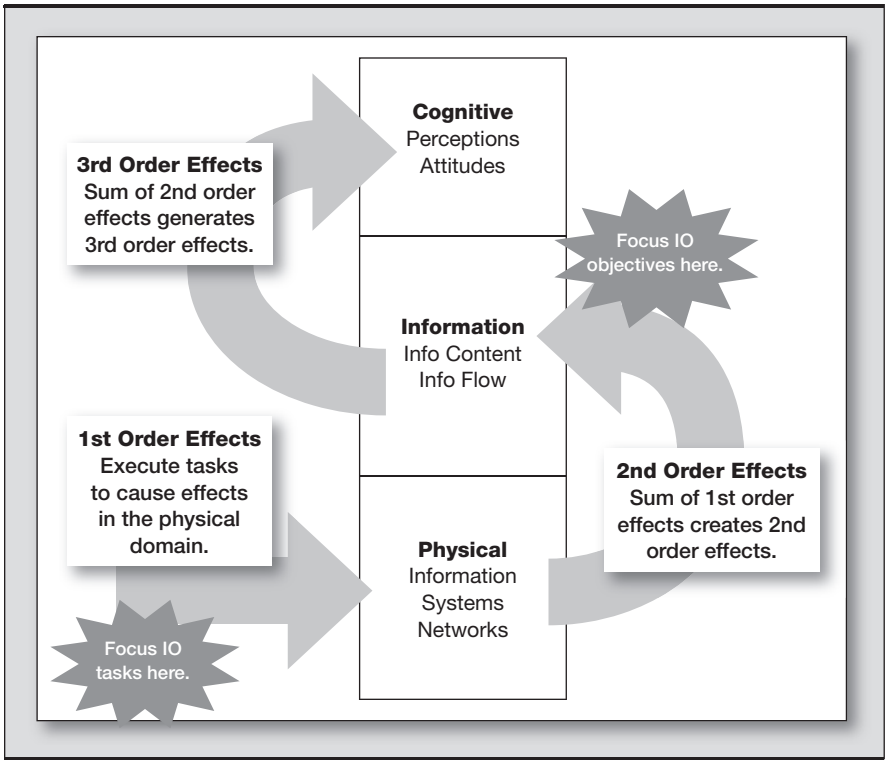


Figure 3: IO Effects Hierarchy

ent experiences, have a different cost of living and cope with different sets of private and public issues than people in New York City. Both cities are located in the US, but each has different people, cultures, language and ambience.

The human dimension affects and is affected by the information environment. Planners must pay attention to the distinct characteristics of their populations and the environments in which they plan to interact.

Information Domain. This domain is where the information exists and flows. For example, most houses in Baghdad have satellite TV as the primary means of viewing Arab news sources, such as Al Arabiya and Al Jazeera. Both news sources highlight and encourage anti-West messages, discrediting non-Muslim societies, governments and religions. Consequently, Westerners tend to avoid Muslim-dominated media sources.

The fact is that these organizations don't have "evil motives." Truthfully, they have a story to tell, and we don't like what they say.

Despite our disagreements with many non-Western media outlets, we must aspire to co-opt their support. Reaching audiences within tactical spheres of operations requires it.

Advocating the truth as they know it is the rule for the Coalition Forces. But, historically, our battle drills for releasing stories advantageous to Coalition and Iraqi security forces are slow and bureaucratic. Normally, we are "beaten to the punch" by anti-Coalition organizations' telling their side of the story first. Sensational news travels quickly.

Gaps in information are quickly filled by adversaries seeking to exploit the same media potential. So if one is not zealous in marketing his side of the story, someone with a different side of the story will market it ahead of him.

Information also can be disseminated by word-of-mouth or through public information awareness drives, such as advertisements in local businesses. Often word-of-mouth can be the quickest and most direct route to the intended target audience. Influential messages can be distributed easily in places where gossip and news may "run wild." Business and recreational centers are frequently gathering places for socialization and story telling. In these types of settings, handbills and posters with meaningful illustrations can be useful for distributing information to specific groups or individuals.

The information domain is difficult to develop. The need to understand the community's literacy rate and favorite television stations are apparent. Media infrastructure and population assessments are useful in determining which media outlets are likely to reach the intended target audience.

These assessments are also useful in determining correlations between population demographics and adversarial activities. In many cases, direct parallels exist between a population's literacy rate or economic status and the likelihood of insurgent activities.

Surveys may cover questions that provide information about literacy rates, unemployment rates, population densities, favorite television and radio stations, and the percentage of households with sewer systems, running water and trash removal. This information adds to the knowledge base enabling planners to gain unique insights into the population. In Iraq and Afghanistan, many units have successfully relied on local experts to support survey efforts.

In addition, unit patrol reports, commanders' narratives and other input from subordinate units clarify situational understanding and add relevance to the staffs' knowledge of individual and population attitudes, motivations, concerns and other characteristics. Gaining the fullest possible understanding of the information domain is vital.

Cognitive Domain. The cognitive domain is where human decision making takes place. This is where values, religion, norms, perceptions and situational awareness influence human behavior. Intangibles, such as morale, unit cohesion and public opinion, reside in this domain as well. The cognitive domain is heavily influenced by cultural and social values. If the commander can influence the people's decision making, he can influence the way they behave and the environment in which his unit operates.

Unless IO planners understand the threat and their populace, adversarial or populace reactions to specific IO efforts can be surprising. To avoid unanticipated negative effects from an IO effort, working with local experts is essential. Local interpreters and paid cultural experts provide key insights into the Iraqi psyche during major events, such as religious holy days, celebrations and elections. Additionally, information from the Internet, country studies and cultural books provides religious sensitivities, cultural norms and traditional values important to the locals.

Commanders and their staffs must consider the second and third order of effects their IO efforts may have on the populace—not just the immediate IO effects. See Figure 3 for a model of the

IO effects hierarchy.

Visualizing and Describing the Information Environment. There are several elements the commander must consider while visualizing and describing the information environment. The information infrastructure, populace, political situation, economics and enemy actions within the information environment deserve thorough analysis. See Figure 4 for a checklist of questions to analyze the elements of the IO environment.

A commander's visualization of the information environment is a continuous process. He and his staff must maintain running estimates as missions and situations develop. His staff accomplishes this by developing a combined information overlay depicting the elements of the information environment. Using a fictional AO, Figure 5 on Page 30 shows an IO media overlaid on other demographic information while Figure 6 is an IO overlay of the AO, combining the area's populace, threat, information infrastructure and population information needs.

The goal is to achieve and maintain information superiority by pinpointing centers of gravity within the environment. For example, an insurgent's ability to develop an ammunition cache near a village may label the village population as a center of gravity due to an increase in the number of VBIED incidents in the area.

Information superiority is an operational advantage that is achieved either by causing the adversary to take specific actions in the physical domain or by making specific decisions in the cognitive domain. It derives from the ability to use information better than the adversary. IO seeks to gain an information advantage over the adversary by affecting the adversary's use of information.[2]

Directing IO in Stability Operations. Successful integration of IO into battle command requires the commander's emphasis. Commanders and staffs direct IO into the concept of operation by having a coherent and focused intent. For example, the commander's concept of operations may involve the integration and implementation of all elements of national power (diplomatic, information, military and economic) simultaneously. Furthermore, it intertwines IO, maneuver and civil-military operations (CMO). IO's goal is to influence the population to accept the new government and Coalition efforts while CMO reconstructs, improves and develops the dilapidated infrastructure while establishing positive relationships among the Coalition Forces, the Iraqi government and the populace. Finally, in the commander's concept, maneuver units concentrate on establishing and maintaining security.

The commander's desired end state is to elicit hope in the minds of the Iraqi people, discredit the insurgency, establish a relationship of trust with the local populace, and reinforce and promote confidence in the stability and legitimacy of the Iraqi government. In short, the commander envisions a stable environment—one in which adversarial forces lack support and are unable to operate freely.

We can show this IO development con-

Information Infrastructure

- What print media is produced in the area? Is it local, regional, international?
- What are the TV and radio outlets in the area?
- What is the telephone status in the area, to include the status of cell phones?
- What is the Internet status in the area?
- What are the key mosques in the area, and over the last three months, what types of religious and political messages has the local imam been emphasizing?
- What faction of Islam is prominent in those mosques?
- Who are the influential religious leaders?

Population

- How many people live in the AO?
- Where are they located?
- What are the high-density areas?
- What is the ethnic breakdown?
- Where are the ethnic lines in the area?
- What is the religious breakdown?
- Where are the religious lines drawn?
- What are the major tribes?
- Who are the key tribal leaders?
- Who are the key community leaders with influence in the AO (formal and informal)?
- Can we overlay tribal boundaries onto the AO?
- Are there any outside players, groups or organizations that have an influence in the AO?

Political Situation

- How is the local population controlled (tribal, government, religious, etc.)?
- What is the status of the local government? Is it functional?
- Who are the local officials?
- What is the range of authority of the local officials?
- How is the national political situation impacting the targeted area?
- Is the local population actively participating in the political process?
- What laws (sharia, secular, tribal, etc.) does the population follow?
- What is the populace's attitude toward key religious, civic, tribal leaders?

Economical Situation

- What is the current economic status of the local population?
- How do the people in the area traditionally earn a living?
- Is there industry or agriculture in the area?
- What is the major industrial infrastructure?

Enemy Actions

- Who are the insurgent groups in the area? What is their desired end state?
- What are the primary means of posting their information (command and control and propaganda)?
- What are the methods of communicating among themselves (command and control)?
- How do they interact with the local population?
- Is the population accepting their disinformation?
- Do the insurgents use intimidation extensively to coerce the local support?
- Do the insurgents conduct any type of civic action?
- Do the insurgents force their causes and beliefs on the local population?

Figure 4: Elements of the IO Environment. The commander and his staff must consider these elements when analyzing the environment.

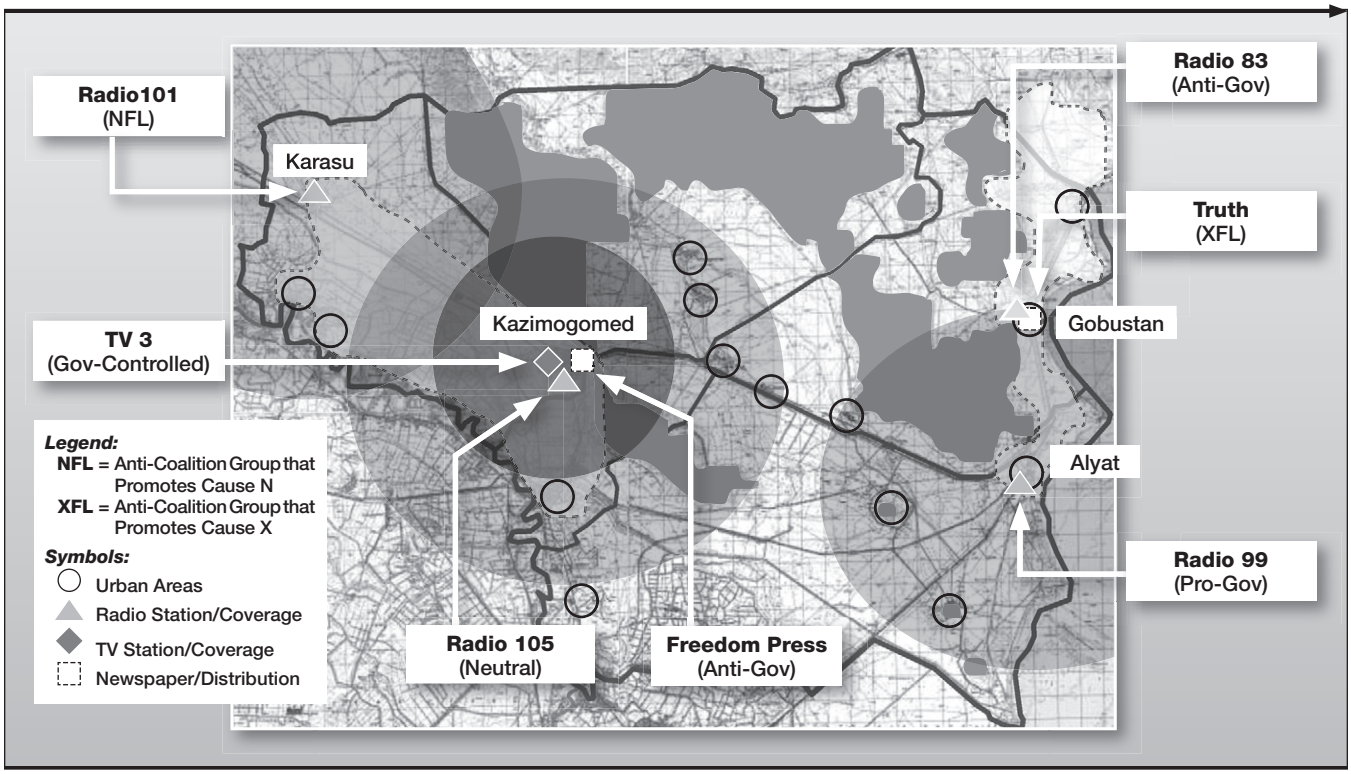


Figure 5: Combined IO Overlay for Media. This overlay includes demographic references in the AO with the IO media overlaid on top. Such combined overlays help the commander and his staff visualize IO in his area.

cept in practical terms by applying the FA's targeting methodology: decide, detect, deliver and assess (D^3A).

But before discussing D^3A, several cautions are in order about applying the conventional targeting process absolutely to the process of determining IO efforts in an AO. Currently, most unit staffs understand the importance and mechanics of creating a target synchronization matrix (TSM) to focus on their mission targets. However, most TSMs are created generically with a "cookie cutter" approach. The TSM becomes macroscopic, not microscopic. In other words, one unit's data for its particular TSM in its particular AO may be so generic that the data also applies to almost any part of the country.

Many times, units fail to understand that each community is unique. Every community has its own set of problems, personalities, challenges and historical significance, making its existence notably different from that of the community 40 miles down the highway. As outsiders, units sometimes have difficulty seeing that.

People often like to "generalize to organize." In many cases, units rely too heavily on the TSM as the driving mechanism during planning. The TSM is a tool to prioritize and allocate targets, not to synchronize maneuver assets in time and space.

Typically, units are accustomed to mapping out the 24-hour targeting solution rather than focusing on the more perpetual factors that may lead us to success in the long run, such as understanding Arab behavior and psychology that has unfolded through generations of practical experiences and learning.

Decide. The main purpose of the Decide function is to determine what to engage and the desired effects. Target selection requires careful consideration when dealing with individuals or sections of the population as targets for nonlethal engagement. Before selecting IO targets, the staff should ask, "What are the desired effects, and what are the potential consequences of these effects?" and "Is the populace the target or is the actual target a group or individual within the populace?"

Once selected, information pertaining to specific targets, including engagement history and other relevant information, should be vetted and updated in the targeting folder. Detailed and complete target data may be vital to plan a successful meeting or negotiation that leads to a desirable outcome.

Doctrinally, part of the target selection process must include target-value analysis—to this end, the ability to assess the effects of nonlethal engagements must be considered during the Decide phase of the targeting process. Leaders must articulate the desired effects on the enemy or populace. The enemy's nature must be broadened significantly to include adversarial forces, not simply belligerents.

Detect. The G2, S2, psychological operations (PSYOP) and civil affairs (CA) provide valuable intelligence and relevancy regarding a particular target. However, one often overlooked source of intelligence is the combat patrols operating within the AO.

Presence patrols have the potential to see things that more technologically advanced assets cannot. Technology may provide the visuals and patterns of the environment, but it never can give us the "pulse and aura" of the environment.

One caution about patrols as detection assets: as professional Soldiers, we easily are vacuumed into restoring order in the community and not being involved. We normally execute our assigned urban mission in our assigned urban AO. Once complete, we extract ourselves from the community to our protected domains until called out again. We execute "play by play" instead of the whole game—missing the real pulse and aura of the community.

A key aspect of the Global War on Ter-

rorism (GWOT), now called the War on Terrorism (WOT). is the fact that every Soldier is considered a collector. To be effective, the information collected by combat patrols must make its way into the intelligence and operations arenas through debriefings and reporting.

Units normally fall into the routine of having only one member (the patrol leader) present during debriefings. When possible, every member of the combat patrol should be present. Soldiers witness and observe things their leaders don't. For example, a vehicle gunner elevated 12 feet off the ground with a 360-degree view of the battlespace is likely to see more. In comparison, the patrol leader seated in the vehicle flush with the street with the distractions of his reporting on the radio to higher headquarters or leading the patrol, he may or may not see a particular truck drive by. But the gunner not only can see the truck, but also spot the mortar tube hidden in the bed of the truck.

Presence patrols can be invaluable sources of intelligence if trained and briefed properly.

Deliver. This is where planners determine how to attack the target using either lethal or nonlethal means. It is pertinent to mention that there are times when units must engage an IO target with lethal means to discourage others in the target audience from taking a particular action or inaction.

The engagement of targets must satisfy the guidance developed in the Decide function. Planners must ensure that engagements are tracked and information is collected to support their assessment of the effectiveness of the engagements.

Answering the questions in Figure 7 on Page 32 helps the commander determine if the unit should engage the target by lethal or nonlethal means.

Assess. Assessment is the continuous monitoring—throughout planning, preparation and execution—of the situation and the progression and evaluation of an operation to make decisions and adjustments.[3] Unfortunately, assessment often is overlooked as part of planning, targeting and execution.

BCT staffs are beginning to recognize the value and importance of establishing a methodology for assessing lethal and nonlethal engagements. As a result, assessments have become one of the most significant contributions to an effects-based approach for many tactical units. Most BCTs have found it necessary to adopt a campaign-style framework for assessing the operational environment.[4]

Assessing the information environment is challenging for two reasons. First, the environment where IO creates effects is not always physical. Second, the effects of an IO effort can be difficult to assess because they often are intangible. The effects of IO engagements often are intended to influence the populace's ideas, perceptions and attitudes. Units must measure these intangible effects indirectly, often making the assessment process difficult and time-consuming and requiring a depth of analysis beyond the capabilities of many undermanned staffs.

The most common instruments for assessing IO effects are measures of effectiveness (MOEs), measures of performance (MOPs) and battle damage assessments (BDAs). These tools are not the assessments themselves but provide input for assessments during specific execution cycles.

MOE. The term "MOE" refers to observable, quantifiable and subjective indicators that an activity is proceeding along a desired path of operational design.[5] According to doctrine, MOEs

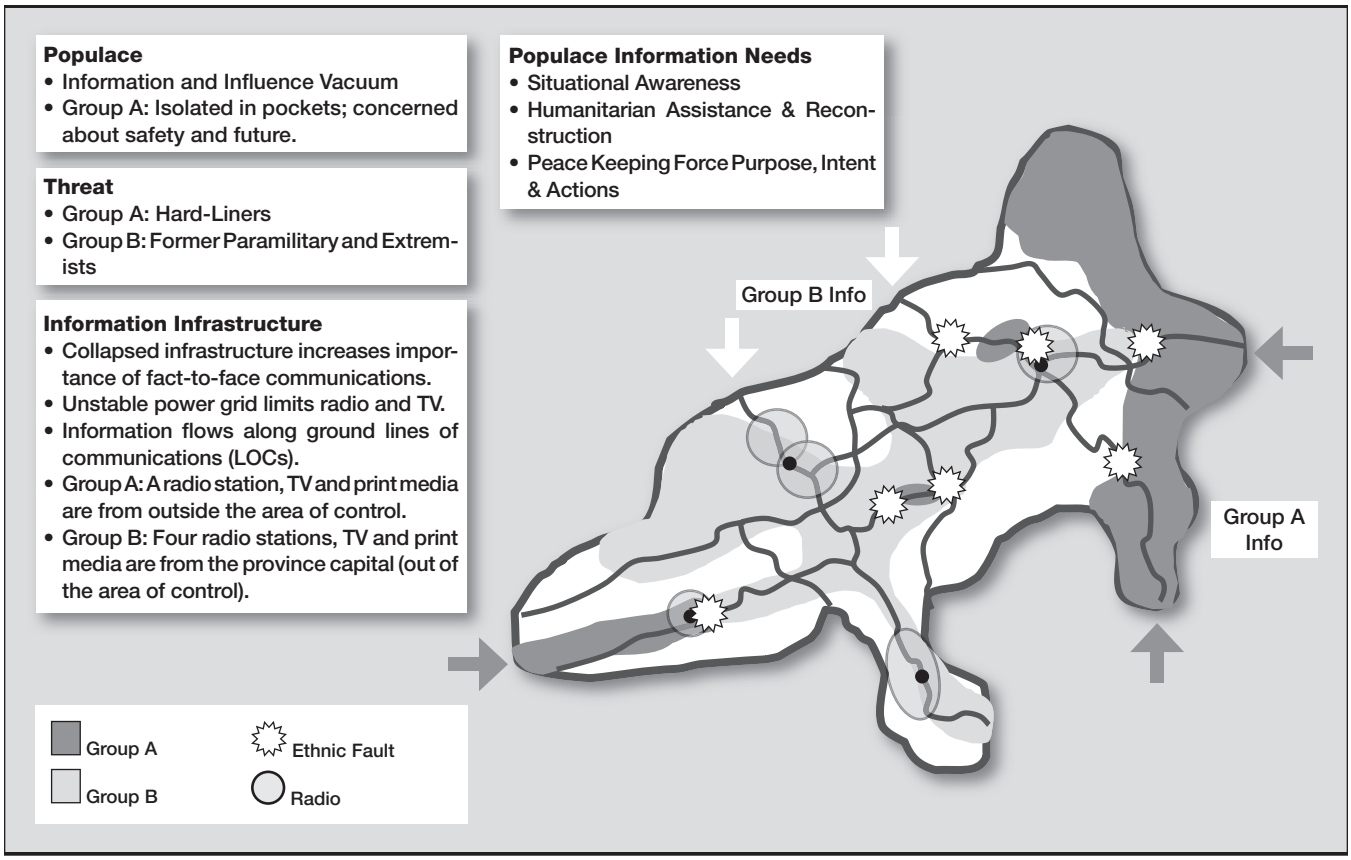


Figure 6: Combined IO Overlay of the Populace, Threat and IO Infrastructure. In this fictional scenario, the commander and staff clearly can see the ethnic "fault lines" where one group interfaces with another. The populace at the fault lines generate and react to information.

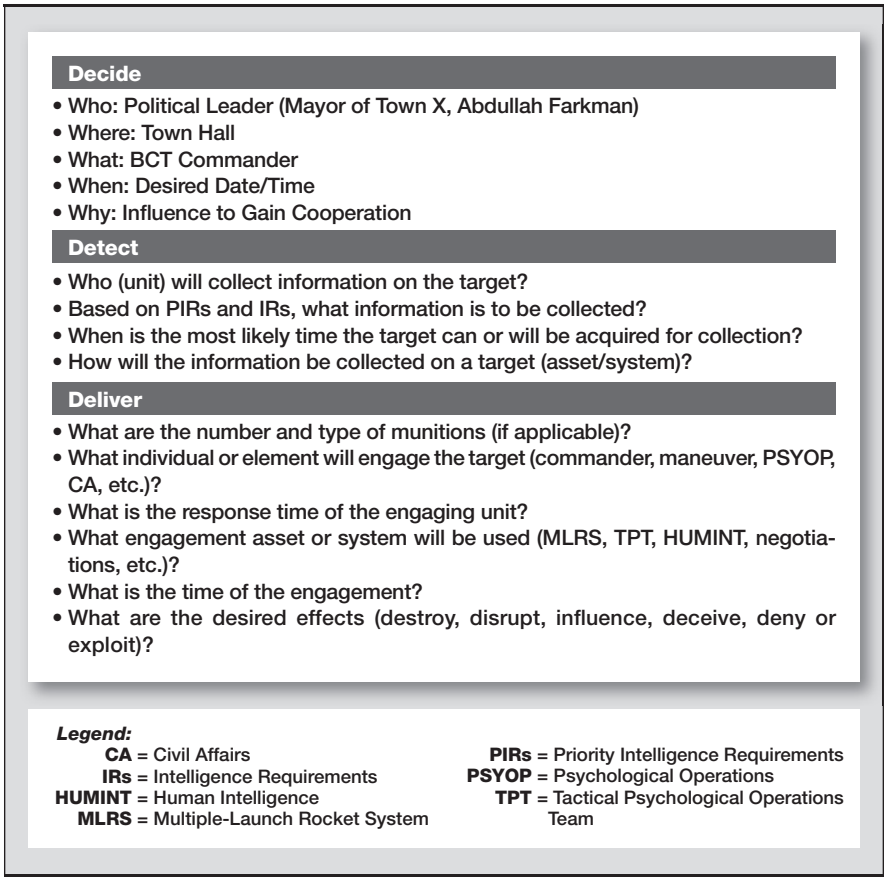


Figure 7: Analysis for Determining Whether to Engage a Target by Lethal or Nonlethal Means

measure the results achieved in the execution of tasks to accomplish the overall mission. More practically, MOEs seek to measure the effectiveness of actions taken by a military force.

Because IO objectives are written to articulate the command's desired effects against threats in the information domain, most MOEs are crafted and used to measure IO objectives. An MOE also may be used to measure the effects after executing a specific task as well, especially if the task has a specific desired effect (using the task, purpose, method and effects format).

An example of an MOE is as follows: "The number of IED attacks against Coalition Forces and the Iraqi Army in Mosul decrease." If the IO efforts are effective, the IED attacks will decrease; if they increase or stay the same, then the efforts did not accomplish the objective or meet the MOE. Analyzing the rates and degrees of changes is vital when measuring progress.

MOP. An MOP is an assessment of friendly force execution of the IO effort. IO won't create the desired effects if friendly forces don't execute the planned tasks successfully. Failure to execute a specified task or the failure of that task to create the desired effect is part of an MOP.

For example, say, the number of presence patrols a unit is required to conduct in its AO with IO messages for the populace is 25 per month. If the unit can only conduct 15 one month because of additional mission requirements, then it has failed to meet its IO MOP.

BDA. BDA is the timely and accurate estimate of damage resulting from the application of military action, either lethal or nonlethal, against a predetermined objective. For IO, BDA measures the negative effects against IO targets. BDA results are used to determine if targets must be re-engaged.[6]

For example, if Coalition Forces want a local imam to deliver a message about the credibility of the local security forces to the community during Friday's prayers, they must ask him far enough in advance to allow him to incorporate the message into his sermon. If Coalition Forces fail to give the imam enough time, then they have caused "damage" to the IO campaign and must reengage the IO target.

Shaping the IO Battlespace. Once brigades and battalions have the tools in place, leaders and staff members can visualize the information environment while planning operations and counteracting insurgent attacks and incidents. IO integrated into operations planning helps to shape the battlespace, for example, in a cordon and search of a mosque.

When the brigade S2 receives intelligence that insurgents and a cache of weapons are hidden in a local mosque, the BCT S3 begins planning the cordon and search. The brigade IO officer provides demographic data of sensitive sites surrounding the targeted mosque, including locations of schools and police stations. Congruently, the IO officer and S2 have databases that show a new imam in this mosque has been giving anti-Iraqi government sermons for the past several weeks.

The operation is planned using the brigade mosque checklist of considerations to reduce the risk of negative publicity and battle drills to handle a negative media event. The checklist requires battalion commanders to brief the brigade commander on mitigating the risk of US forces coming in contact with religiously sensitive rooms in the mosque, techniques to show Iraqis that the unit respects their mosque and religion, the plan for using unit photographers and combat camera teams extensively to document the entire operation and plans for mitigating negative responses from local residents.

In one case, after a successful raid that captured several insurgents and a cache of weapons and munitions, the unit showed pictures of the cache inside the mosque to local residents. Instead of the residents' expressing outrage for the unit's entering the mosque, they were happy to have the insurgents removed.

In another operation, the unit was able to refute false media reports that US forces desecrated a mosque. They did this by publishing photographs of the operation that clearly showed no such desecration took place. In fact, the photographs showed US and Iraqi security forces conducting the search with respect for the imam and mosque. The photos also served as hard evidence in the Iraqi judicial system that made it easier and "cleaner" to prosecute accused criminals and their supporters.

The old message of "winning the hearts and minds" of the Iraqis may be viewed as a cliché from the past. Instead, one may want to win their "trust and confidence." Uninformed people who have their world

changed tend to distrust outsiders and are naturally angry at those who are responsible for changing their world.

This concept is easily summarized by the degree of change one is forced to face and adapt to. The diminished quality of life and degree of fear that an Iraqi experienced before the fall of Saddam Hussein's regime may be minimal compared to other Iraqis. Some Iraqis may convey that life was good until the arrival of the Coalition Forces. Others will convey that their lives are now much better.

Challenges continuously arise in a nation with a turbulent history and a lot of "old scores to settle" within their own civilization. In the war against terrorism, understanding the people's and media's perceptions, propaganda and anti-propaganda is essential. Proactively distributing information via digital photos, posters and messages through television and radio are integral to IO to keep the insurgents from undermining Coalition efforts. If Coalition efforts are undermined, then IO efforts are put on the defensive and focus on counterpropaganda measures designed to discredit the insurgents and their efforts.

Digital photos a Soldier takes may convey a very powerful message. Taking into account that a "picture is worth a thousand words," photos of injured or dead innocent civilians published in local news sources project how indiscriminate an IED or VBIED truly is.

After the photo is published, the Coalition questions of the populace should be, "Is this how you want the future of Iraq (or Afghanistan) to be?" "Why are your children dying for such a cold and selfish cause?" "Will you help us stop those who want to butcher your family and friends?"

Stability operations tend to lose momentum after a few months of execution. Habitually, units "wear out their welcome" no matter how good their intentions are. IO injects longevity into stability operations. It "softens" the Coalition Forces' stay and attempts to make their presence more acceptable to the Arabs. IO may be viewed as "stability operations on steroids."

Today, components that conventional combat units are not accustomed to working with—PSYOP, CA, public affairs, electronic warfare (EW) and military deception—are commonly imbedded in every mission. These IO components are now decisive instruments in WOT to bring about "understanding" which, to be successful in stability operations, is more important than physical domination.

Major Erin A. McDaniel is the Senior Instructor for the Tactical Information Operations (IO) Course, E Company, 1st Battalion, 30th Field Artillery Regiment (E/1-30 FAR), Fort Sill, Oklahoma. Previously, he served as an Observer/Controller Battalion Assistant Operations Trainer, Light Firing Battery Trainer (Airborne) and Combat Service Support Trainer at the National Training Center (NTC) at Fort Irwin, California. In other assignments, he served as Commander of A/1-94 FA (Multiple-Launch Rocket System) and a Personnel Officer in 4-27 FA, both in the 1st Armored Division in Germany, and as the Battalion Logistics Officer, B Battery Executive Officer, Support Platoon Leader and Company Fire Support Officer in 3-6 FA in the 10th Mountain Division, Fort Drum, New York.

Captain Julio A. Perez, an FA30 IO Officer, is a student in the Field Artillery Captain's Career Course, Class 07-06, in the FA School, Fort Sill. He worked as a Fire Direction Officer for B Battery, 2-2 FA, 30th FA Regiment, in the FA School at Fort Sill. He served as a Firing Platoon Leader and Support Platoon Leader in 3-13 FA (MLRS), 214th FA Brigade, III Corps Artillery, Fort Sill. In Operation Iraqi Freedom III, he was a Battalion Maintenance Officer for 3-13 FA attached to the XVIII Corps Artillery. Captain Perez served 10 years as a Military Occupational Specialty 11C Mortarman, rising to the rank of Staff Sergeant, before attending Officer Candidate School at Fort Benning, Georgia.

Tactical IO Course. *This three-week course is open to Soldiers, Marines and Airmen, 30 students per class, with a class beginning 27 November and the next class beginning 15 January 2007. Soldiers must ensure their S3s enter them in the Army training requirements and resources system (ATRRS), course number 9E-F14/950-F10, to receive credit for attendance and an additional skill identifier (ASI). Marines and Airmen can contact Major McDaniel at DSN 639-1668 or commercial (580) 442-1668 or via email at erin.mcdaniel@us.army.mil.*

Endnotes:

1. COL Ralph O. Baker, "The Decisive Weapon: A Brigade Combat Team Commander's Perspective on Information Operations," *Military Review*, May-June 06 (Fort Leavenworth, KS: Command and General Staff College), 13-32.
2. White paper by the 1st Information Operations Command Field Support Division, "TTPs for Tactical and Operational IO Planning," February 2006, 3.
3. *FM 6-0 Mission Command: Command and Control of Army Forces* (Washington, DC: Headquarters, Department of the Army), August 2003, 6-4.
4. White Paper, Chapter 9.
5. *FM 3-0 Operations* (Washington, DC: Headquarters, Department of the Army), June 2001, 6-22.
6. *FM (Interim) 5-0.1 The Operations Process* (Washington, DC: Headquarters, Department of the Army), March 2006, Chapter 5.

US Navy Photo by Photographer's Mate 1st Class (PHI) Michael Larson

A Soldier hands out maps and information to the residents of Tarmiya, Iraq, 25 March 2006, detailing safe routes citizens must take when entering and leaving Tarmiya due to ongoing counterinsurgency operations.

Winners' Gallery

2006 Field Artillery Photo Contest

The staff at *Field Artillery* magazine would like to congratulate all who entered the 2006 *Field Artillery* Photo Contest.

All photographs entered in the contest were excellent examples of the photographers' skills and talents. We received many entries from across the services—Active and Reserve Components.

The top 10 entries appearing in this magazine are also available for viewing and downloading under "2006 Photo Contest Gallery" on our Web site at http://sill-www.army.mil/famag/index.asp.

Photos entered into the contest may be used in upcoming editions of the magazine. Full credit will be given to the photographers.

1st Place

Actual Combat or Stability Operations

SGT Benjamin Taylor, Gunner, B Battery, 1st Battalion, 320th Field Artillery Regiment (B/1-320 FAR), 2nd Brigade Combat Team (BCT), 101st Airborne Division, fires one of eight rounds during a registration and area denial mission 16 May 2006 at Forward Operating Base (FOB) Mahmahdiyah, Iraq. Photo by SPC Kelly K. McDowell, Headquarters and Headquarters Company (HHC), 2nd BCT, 101st Airborne Division (Air Assault), Fort Campbell, Kentucky.

1st Place

Training for Combat or Stability Operations

Soldiers from C/4-27 FA clean their M109A6 Paladin howitzer tube in the motor pool at Camp Buehring, Kuwait. From Left to Right: SPC Jason Marshall, SSG Zachary Parrish, SGT Aaron Smith and SPC Benjamin Luker. SGT Smith was killed on 14 September 2006 by a suicide vehicle-borne improvised explosive device (SVBIED) in Baghdad. Photo by CPT James V. Collado, Headquarters and Headquarters Battery (HHB), 4/27 FA, MultiNational Division-Baghdad (MND-B), Camp Liberty, Iraq.

Winners' Gallery

2nd Place

Actual Combat or Stability Operations

Soldiers of F/7 FA, 25th Infantry Division, fire from FOB Salerno, Afghanistan, in support of Operation Enduring Freedom (OEF) IV. Photo by MSG Anthony D. Cortez, United States Army Sergeants Major Academy, Fort Bliss, Texas (formerly the 1SG of F/7 FA).

2nd Place

Training for Combat or Stability Operations

A Soldier with B/3-16 FA, 4th Infantry Division, performs weekly maintenance on an M109A6 Paladin howitzer at Camp Duke, Iraq, 14 April 2006. US Navy Photo by Mass Communications Specialist Petty Officer Second Class (MC2) Katrina Lynn Jones.

3rd Place

Actual Combat or Stability Operations

1LT Graham Genrich, B/3-320 FA, 101st Airborne Division, secures the perimeter during a patrol in Osha City, Tikrit, Iraq, 27 April 2006. Photo by SPC Teddy Wade, 55th Combat Camera (COMCAM), Fort Meade, Maryland.

3rd Place

Training for Combat or Stability Operations

C/4-11 FA, 1st Stryker BCT, 25th Infantry Division, calibrates fires at FOB Courage, Mosul, Iraq, on 6 March 2006. Photo by SGT Dennis Gravelle, 138th Mobile Public Affairs Detachment (MPAD), Mosul, Iraq.

Honorable Mention

Marines of M/4-14, Gun 4, engage enemy targets in Fallujah, Iraq, with an M198 155-mm howitzer on 11 November 2004. USMC Photo by LCpl Samantha L. Jones, 1st Force Service Support Group (1FSSG), COMCAM.

Soldiers from B/1-320 FAR, 2nd BCT, 101st Airborne Division, fire on 16 May 2006 at FOB Mahmahdiyah, Iraq. Photo by SPC Kelly K. McDowell, HHC, 2nd BCT, 101st Airborne Division.

SGT Jose Ferrer with 4-320 FA, 4th BCT, 101st Airborne Division, conducts a search on 8 February 2006 in East Baghdad, Iraq. US Navy Photo by Photographer's Mate 1st Class (PH1) Bart A. Bauer, Combat Camera Group Pacific.

Soldiers of F/7 FA, 25th Infantry Division fire from FOB Salerno, Afghanistan, in support of OEF IV on 20 November 2004. USMC Photo by Cpl James L. Yarboro, 3rd Battalion, 3rd Marine Regiment.

2007 FA and ADA Photo Contest

Purpose. The purpose of this annual contest is to obtain high-quality photos capturing Field Artillery (FA) and Air Defense Artillery (ADA) units and Soldiers conducting training or engaged in full-spectrum operations. These photos may appear as a cover or other shots for future editions of the magazine, as part of the Chief of the Fires Center of Excellence (CoE) poster series or in other esprit de corps or strategic communications projects.

Scope. Photos should capture images that tell the story of today's Army/Marine Field Artilleryman or Air Defenders in the War on Terrorism (WOT) or in training between June 2006 and June 2007. The competition is open to any military or civilian, amateur or professional photographer. Although entrants may submit horizontal or vertical photographs, vertical shots tend to work best for magazine covers and posters.

Two Prize Categories – Six Prizes. A First Place prize of $500, Second Place prize of $200 and Third Place Prize of $75 will be awarded in each of two categories: (1) Training for Combat/Stability Operations and (2) Actual Combat/Stability Operations. Each entrant can submit up to three photographs. The winning photos will be posted in the magazine's Photo Gallery on our website at sill-www.army.mil/famag/index.asp.

Rules. Listed below are the rules for the 2007 photo contest:

- Entries' contents must meet the requirements of the specified categories and be received by the magazine not later than 1 June 2007.
- Each photograph must be a color jpg or tif image.
- Each photo must have a minimum of four (4) mega pixels in its original file size. Any image with its resolution "beefed up" to meet contest requirements will be disqualified.
- Images cannot be manipulated other than the industry standard for darkroom processing, such as dodge, burn, crop, etc. (For clarification see DoD Directive 5040.5, "Alteration of DoD Imagery.")
- Each image must have identifying and caption information embedded in the "File Info" or "Properties Summary." This includes the photographer's name, unit/affiliation, email address, mailing address, and phone number. Caption information must include who is doing what, where and when (date) in the photograph. Be sure to fully identify the personnel/unit being photographed—for example, SGT Joe B. Smith, C/2-20 Fires, 4th Fires Brigade, Fort Hood, Texas.
- Photos cannot be copyrighted or owned by an agency/publication; the image must be cleared for release and publishable in the magazine.

Judging. A panel of editors, professional photographers and military personnel will judge the submissions and select winners. The judges' decisions will be final. Judging criteria is as follows:

- Power and impact of the message the image conveys.
- Composition, clarity, lighting, focus, and exposure of the image.
- Creativity and originality.

Submissions. All submissions may be used at the discretion of the magazine staff. Up to three images per photographer can be submitted by email, compact disk (CD), zip disk or file transfer point (FTP). CDs and zip disks will not be returned.

- Email images to the Art Director at famag@conus.army.mil . Please submit only one image per email. Mark the subject line as "2007 Photo Contest/Photo #1 [2 or 3]–Your Last Name."
- Mail CDs or zip disks to ATTN: Photo Contest at P.O. Box 33311; Fort Sill, OK 73503-0311.
- FedEx or UPS submission to Building 758, Room 7, McNair Road, Fort Sill, OK 73503-5600.
- For FTP submission, email the Art Director and request an FTP site, user name and login.

Questions. If you have questions please call Art Director Fred W. Baker III at DSN 639-5121/6806 or commercial at (580) 442-5121/6806.

Iraqi Army soldiers march during a transfer of authority ceremony between the 1st Brigade Combat Team (1BCT), 10th Mountain Division, and the 6th Iraqi Army Division at Forward Operating Base (FOB) Constitution, Baghdad, Iraq, 2 March 2006.
(Photo by SSG Kevin L. Moses, Sr., 55th Combat Camera)

So, You're Going to be on a MiTT.

What Do You Need to Know?

By Captain Jared R. Kite and
Major Christopher L. Matson and
Lieutenant Colonel Richard A. McConnell

We've been on a military transition team (MiTT) with the 3rd Battalion, 4th Brigade, 2nd Iraqi Army Division (3/4/2 IA) in Mosul for four months, and after reviewing the many lessons we've learned, we wish we could get into a time machine and go back to prepare ourselves better for the MiTT mission. What we've learned so far applies not only to a MiTT, but also to all types of transition teams in Iraq or Afghanistan—border transition teams (BTTs) and special police transition teams (SPTTs), to name a couple.

For example, in the past several months, we have learned the following important principles.

The unit you work with is not a US unit and never will be. Nonetheless, it is capable of great things—the trick is to encourage improvement in ways the unit leaders can adapt as their own, so improvements endure after your team leaves.

Team members are advisors and, as such, don't "direct" change—just help the unit improve. You must spend many hours getting to know your counterparts over countless meals and Chai, working to build rapport, before your unit members seriously will consider any recommendation you give.

You will be the most successful when you are the "unnoticed" influence in the unit. This is not about you but about the unit. As a team member, you are there to make the unit strong enough to fight and win against the insurgency and protect its fellow citizens.

The team's job is all about relationships. With work, you will make slow, but steady progress toward the unit leadership's accepting you and your other team members as brothers, which helps your team help the unit improve.

Most importantly, we have learned that being on a MiTT is a *great* job. It can be frustrating but also very rewarding as we watch our unit grow and improve.

So, what would we have done differently based on what we know now? This article provides lessons learned during the last few months as the 3/4/2 IA MiTT at Combat Outpost Resolve in southeastern Mosul. These are the things we would like to have known after our training in the US, Kuwait and at the Phoenix Academy in Taji, Iraq.

When you are assigned to a MiTT, one of the first things you will learn is where

MiTT Positions	Typical Staff Functions Performed	Rank (On Our Team)
MiTT Chief	Commander	LTC
Headquarters and Service Company (HSC) Advisor	S1/HSC Commander	CPT
S2 Advisor	S2	CPT
S2 NCO-in-Charge (NCOIC)	S2/Team NCOIC	1SG
Maneuver Advisor	S3/Executive Officer	MAJ
S4 Advisor	S4	CPT
S4 NCOIC	S4	SFC
Communications NCOIC	S6	SFC
Fire Support Officer (FSO) Advisor	FSO	SGT
Fire Support NCOIC (FSNCOIC)	FSNCOIC	SGT
Medic	Medic	SGT

Organization of the Military Transition Team (MiTT) for the 3rd Battalion, 4th Brigade, 2nd Iraqi Army Division (3/4/2 IA) in Mosul, Iraq. This is the organization specified in the modified table of organization and equipment (MTOE) for a battalion-level MiTT.

you fit into the team. The size of the unit your MiTT works with will dictate your team's size and composition. Our experience is on a battalion MiTT, but our general organization and functions apply to all transition teams as the same staff functions must be performed on each team.

The first challenge is to find out who is doing what on the team and how that applies to staff functions. See the figure for our team's organization.

As you can see in the figure, we designated team staff functions based on the advisor's job. For example, the headquarters and service company (HSC) trainer was the team S1 and the maneuver trainer was the team executive officer (XO).

It is also important to designate a team NCO-in-charge (NCOIC). The NCOIC serves as a model for Iraqi units. The MiTT must work diligently to help the unit develop effective NCOs—a strength of the US Army.

In discussing our organization and team staff functions in this article, we tell what each has learned in the various positions.

MiTT Team Chief. If you are to be the chief, it will "pay big dividends" if you get to know all team members and get the mailing and email addresses and telephone numbers of their families and get the families involved as support for the team. We began a monthly newsletter immediately that continues today.

As far as our MiTT train up was concerned, the program of instruction (POI) seemed endless and very repetitive. From the MiTT chief's "foxhole," here is a list of the most important training.

Ensure all team members are combat lifesaver qualified. This is a requirement for deployment. We mention it because it is good training—everyone needs these skills.

Be sure all team members are trained and licensed on the M1114/M1151. This is not just a high-mobility multipurpose wheeled vehicle (HMMWV)—it is armored and heavy and can be a challenge for some to drive in a tactical situation. Remember, you lead a small team; when convoy manifesting comes around, all team members must be able to drive.

Get all team members qualified on the M240B and M2. Like being able to drive, being able to crew these key weapon systems is an important skill for all team members. The team must be able to move across the battlefield. Crew-served weapons will have to be manned, and all team members must be able to perform these force-protection tasks.

Get as many team members blue force tracker (BFT) trained as possible. To serve as a truck commander (TC), one must be able to operate the BFT, understand its displays and maintain situational awareness as the team moves around the battlefield.

As chief, you must make sure your team has all the skills necessary to thrive on the battlefield.

HSC Advisor and S1. As the HSC advisor, you should be a senior captain, preferably with command experience, ideally as an HSC commander. You are responsible for many "moving parts," most of which are administrative. One challenge is that the Iraqi Army struggles with most administrative tasks.

Your primary focus areas are as follow.

Pay Operations. Find out what you can about your Iraqi Army unit's pay history. One of your biggest responsibilities is monitoring Iraqi Army pay operations for discrepancies and errors. Knowing what to expect can help you avoid major problems.

Specialty Platoon Mentorship. You spend a lot of time with the Iraqi HSC commander, advising him. You help him work with the maintenance platoon leader to establish maintenance procedures, work with the reconnaissance platoon to ensure it is trained and used properly, ensure the transportation platoon is adequately trained and resourced to help the command accomplish its missions and facilitate the training and resourcing of the medical platoon.

Awards Programs. Find out if the outgoing MiTT has had an awards program for the Iraqi Army. If it hasn't, develop one. Proper recognition of soldiers is a powerful motivation tool and can help move the unit in the right direction.

S2 Advisor. Contact the MiTT your team is replacing as soon as possible and determine the unit's intelligence skills. Additionally, as the incoming MiTT S2, you can prepare for the tour by focusing on the following areas.

Predictive Analysis. Helping the Iraqi S2 figure out who the enemy is, where he's located, what his capabilities are and where he has operated in the past is paramount to advising the commander on matters of intelligence. The Iraqi unit's S2 is an essential member in the mission planning process, not just the "detainee guy." The unit S2 most likely will need help in conducting map reconnaissance and identifying enemy trends/tactics, techniques and procedures (TTPs) and then using this information to forewarn the commander and his company commanders before they move out on missions.

Detainee Operations. Understand the basic rules regarding the treatment of detainees. Review detainee-handling procedures and forms before deploying to theater, if possible, and ensure the Iraqis understand that you work as a team in the detainee process. At first, you probably will need to micromanage the battalion's detainee process. If the Iraqis already have a system in place that works well, use it.

If you don't understand how to handle evidence properly, *learn it*. Contaminated evidence is worthless and only lets bad guys go free unnecessarily.

Team NCOIC/S2 NCOIC. Our MiTT NCOIC was also our S2 NCOIC as the ranking NCO. As the team NCOIC, you focus on maintaining standards and developing NCOs (both in the Iraqi army unit and MiTT). The team NCOIC is vital to maintaining a comfortable and civil work environment. Some things for you to consider before deploying include the following.

The Plan. Have a tentative plan to develop team standing operating procedures (SOPs), TTPs and staff schedules, for example, schedules for tactical operations center (TOC) duty, maintenance, etc., and to assign manifesting convoys to one person.

NCO Development. The NCO corps in the Iraqi Army is underdeveloped, and, you, as the senior NCO, work with the Iraqi Army command sergeant major (CSM) to develop his NCO corps. Patience and realistic expectations are a must. Always remember that you're not trying to make the Iraqi NCOs like yourself.

As the S2 NCOIC, your primary responsibility is to help the S2.

Maneuver Advisor/XO. As the maneuver advisor, you should be the second most experienced and ranking officer on the team. In the team chief's absence, you are responsible for leading the team as well as interacting with the Iraqi Army battalion commander.

As the XO, you track the team's daily operations and enforce all suspenses while advising the Iraqi Army on operational matters. Here are some of the lessons we learned that will help you.

Keep it simple. Whether you're talking about troop-leading procedures (TLPs), the military decision-making process (MDMP) or pre-combat checks (PCCs), remember you're working in another culture and through an interpreter. Keep your concepts and phrases as simple as possible if you want to communicate your message effectively. Practice communicating what you want to say *without* any military jargon.

Slow and steady wins the race. Mission planning and organization are areas that require your constant attention and focused effort to improve the unit. To be most successful, you identify concepts and areas for the unit to improve and then work *gradually* to get these new concepts and ideas accepted and implemented. Don't try to do too much too soon. Tiny steps in the right direction, ultimately, will get you to your goal.

Develop some language skills. Our team in Mosul works with Kurdish soldiers. The language instruction we received was in Arabic. Find out what language and dialect the majority of the soldiers in your Iraqi unit will speak and learn some basic phrases. Being able to speak your Iraqi unit's language "pays dividends" in forming relationships faster and getting the important information at 0200 when there isn't an interpreter around.

Don't try to clone yourself. If you keep this phrase in your mind, you'll be infinitely more successful and enjoy your time on a MiTT. Your efforts never will create a mirror version of the US Army.

Your job is to make the Iraqi Army better and capable of self-sustaining combat operations. Anytime you accomplish this, whether it is through the first back brief on a terrain model or something as simple as getting a young NCO to conduct a "police call" around the perimeter, smile and recognize that you're making progress.

S4 Advisor and S4 NCOIC. An accomplished S4/S4 NCOIC can make all the difference on a MiTT. You must understand the system and be able to network effectively with your Coalition counterparts in order for the team to accomplish many of its mission tasks.

Don't expect the normal US supply system to function flawlessly. Due to the MiTT organization, the team sometimes falls outside of the norm, and other US military systems and organizations have a hard time understanding the team's needs and limitations. You must be able to communicate effectively with others if you hope to get the support you need.

As the S4/S4 NCOIC, prepare for your mission by focusing on the following tasks.

- If you have no supply experience, review AR 735-5 Policies and Procedures for Property Accountability.
- Establish a logistics support activity (LOGSA) account before deploying.
- Find a copy of the Federal Logistic Catalog (Fedlog) and install it on your computer.
- Determine the Department of Defense activity address codes (DODAACs) that you will use in country.
- Bring a personal computer if the team you are replacing does not have team computers.
- Bring copies of DA Form 2062 Hand Receipt/Annex Number to hand-receipt any equipment received en route to your final destination.
- Bring a box with basic supplies (pens, pencils, notepads, etc.) to get you started while in training.
- Before arriving in country, determine what supplies the team will need in country, prepare the proper paperwork to request the supplies and drop the requests upon arrival at your team's location.
- Be prepared to face an underdeveloped and underused Iraqi supply system. It will take research and patience to begin to understand its complexities. For example, for those "old timers"

MiTT Chief LTC Richard McConnell, center, reviews operations with other Coalition soldiers, MiTT members, IA soldiers and an interpreter in the tactical operations center (TOC) as they get ready to excecute a mission with the 3rd Battalion, 4th Brigade, 2nd Iraqi Army Division (3/4/2 IA). The man in an Army tee shirt is the interpreter.

who remember the paper DA Form 2404 Equipment Inspection and Maintenance Worksheet system, the Iraqi system is similar. All supply and maintenance requisitions must be in "hard copy" and stamped at every level of command to be filled.

Communications NCOIC. MiTT teams, in many cases, are separated from other US forces. Being able to communicate with higher headquarters is essential. Your primary job will be to keep the team in contact with higher headquarters while coaching and mentoring the Iraqi Army communicators.

Some of your duties will include the following.

Learn the team's communications package. You have to be the subject matter expert (SME) on each piece of equipment and capable of operating and maintaining it.

Advise your unit on communications. This will require some study on your part to learn the Iraqi systems and help the unit maintain communications. You're probably going to dedicate yourself to some intense self-study sessions with manuals and instruction booklets for communications systems you've never worked with. Time spent learning these systems will "pay off tenfold" when you can work with the Iraqi Army on their systems.

Medic. The medic on a MiTT is incredibly important. Unlike many MiTTs, our team is not collocated with US forces. Because of our remote location, we are on our own in the event of most emergencies, including medical emergencies. Confidence in your skills as a lifesaver is critical because there will be times when that skill is called into action.

Some of your basic, daily areas of responsibility are as follow.

Team Medical and Health Maintenance. Some of the facilities you find the team occupying probably will be sub-standard. Identifying health hazards and getting them corrected will require your constant attention and action.

Medical Supplies. Pack heavy. You never know when you're going to get resupplied, so stock a wide range of medical supplies. It also helps to network aggressively with your Coalition partners to resupply some of the items that are more difficult to get.

Unit Medics Training. You're with the unit to help the Iraqi medics get better at doing their job—not do their job for them. If you understand your job, you will find yourself turning the Iraqi soldiers back to their own medics for routine treatments. Many of the medics will have medical training but lack field experience.

Work with the Iraqi Army medics to get their hands on patients. For example, helping them run sick call is an excellent way of ensuring they get valuable hands-on training.

Emergency Medical Management. You're in a combat zone, so you can expect to treat everything from an ingrown toenail to life-threatening bullet and blast injuries. Make sure you do a medical evacuation (MEDEVAC) rehearsal during your relief-in-place (RIP) with the outgoing MiTT. Many posts in Iraq have emergency entrances—learn the routes in your area.

Fire Support Officer (FSO)/Fire Support NCO (FSNCO). In Iraq, you may or may not make a call-for-fire, and you must be proficient at coordinating for close air support (CAS) and Army aviation.

The most common fire support platforms in our area are aviation, which are used mostly for non-kinetic operations, such as gathering intelligence. Be prepared for an intelligence-heavy approach to your operations.

On our team, our fire supporters provided invaluable support in the following areas.

Targeting. Expect to work closely with the S2. Target packages are paramount in a successful operation. One of the weaknesses in most Iraqi Army units is developing a good picture of the target and its capabilities before they begin operations.

Vehicle Operations. Grab a wrench. Mentoring and coaching the Iraqi Army unit as it learns to keep its vehicles operational is a major job. We are fortunate to have a FSNCO who is comfortable in this role, and his efforts help tremendously.

Junior NCO Training. Your working with the Iraqi first sergeant (1SG) can help improve the Iraqi army NCO corps.

Team Tips. So you have been assigned to a MiTT and are preparing to go "down range." Before you go, here are a few final words of advice.

- Get as many of your team certified to handle your mail as possible.
- Talk about driving and convoy security with someone on the outgoing team. How did they maintain separation and forward movement while moving tactically?
- Ensure everyone on the team knows and understands the rules of engagement (ROE), especially the rules regarding escalation of force.
- Make sure everyone thoroughly understands the hierarchy of weapon statuses and how to safely load and clear all assigned weapons.
- Additionally, make and maintain contact with the team you are replacing *as soon as possible*. Those team members are your SMEs and can give you the realistic picture of your unit and operational environment.

Hopefully these tips will help arm you with the tools for success as a MiTT member. Get ready for a challenge and for the "ride of your life." Serving on a MiTT is not easy, but it is a great job and pivotal to our country's exit strategy from Iraq.

Captain Jared R. Kite is the S2 Advisor for the 3rd Battalion, 4th Brigade, 2nd Iraqi Army Division on the 3/4/2 IA Military Transition Team (MiTT) in Mosul, Iraq. Previously he was the Transformation Officer for the 313th Military Intelligence Battalion (313 MI), 82nd Airborne Division, Fort Bragg, North Carolina. Among other assignments, he was the Regimental Chemical Officer for the 319th Airborne Field Artillery Regiment, also with the 82nd Division. Captain Kite previously was enlisted and served as a Counterintelligence Agent with C Company, 308 MI, 902d MI Group, Fort Leavenworth, Kansas.

Major Christopher L. Matson, Army Reserves from Charlotte, North Carolina, is the Maneuver Advisor and Executive Officer (XO) on 3/4/2 IA MiTT in Mosul. Before deploying, he was a Strategic Analyst with the 108th Division (Initial Training) in Charlotte where he also served as a Budget Officer and Company Commander. Among other assignments, he was a Company Commander and Communications and Electronics Platoon Leader in the 337 MI (Airborne), also in Charlotte. He served on active duty as a Platoon Leader and Battalion Air Operations Officer with the 1-27 IN, 25th Infantry Division, Schofield Barracks, Hawaii.

Lieutenant Colonel Richard A. McConnell, is the 3/4/2 MiTT Chief in Mosul. Previously, he was a Fire Support Observer/Trainer assigned to the Battle Command Training Program at Fort Leavenworth. During Operation Iraqi Freedom (OIF) I, he was the S3 and XO of 1-12 FA, 17th FA Brigade, III Corps Artillery from Fort Sill, Oklahoma. Among other assignments, he commanded Headquarters and Headquarters Battery (HHB), 41st FA Brigade, V Corps Artillery, in Germany and was a Battery Fire Direction Officer in 1-320 FA, 101st Airborne Division (Air Assault) in the Gulf during Operation Desert Storm.

Preparing for the Pentathlon:

Thoughts on Combined Arms Brigade Command

By Colonel Gary H. Cheek

In his 25 July 2006 message to the field, Chief of Staff of the Army General Peter J. Schoomaker announced he was opening command opportunities for combined arms brigades to Field Artillery and Engineer colonels, starting in FY09—combined arms brigades that have been the exclusive domain of Infantry and Armor. The Chief made the case that the time has come to broaden the Army culture, that we need multifunctional leaders—Pentathletes—to lead the Army.

This decision was due neither to a lack of confidence in our maneuver brothers nor to spread equity among the combat arms for colonel-level command opportunities. This decision was about changing the Army's culture from one that tends to produce leaders with specialties and niche skills to one that produces leaders capable of handling a myriad of complex missions and requirements. It will have a positive impact on the culture of the Army and Field Artillery.

Historical Precedents. Redlegs commanding maneuver brigades is not without historical precedents. In the Civil War, Field Artilleryman General George H. Thomas commanded the 21st Infantry Regiment when it earned the motto "The Rock of Chickamauga." Likewise, General Thomas J. "Stonewall" Jackson, a Redleg, distinguished himself in many battles during the Civil War as the right-hand man of General Robert E. Lee, an Engineer and former commander of the 2nd Cavalry Regiment.

That these officers could command combined arms formations so successfully largely is due to their shared experience with the Infantry and Cavalry. The shorter weapons' ranges and high density of forces, ultimately, brought a greater understanding of the various roles through personal experience—a condition that has dramatically changed in modern warfare.

Less well known but, perhaps, more relevant is an example from World War II when General J. Lawton Collins selected two Field Artillery colonels to command the 358th and 357th Infantry Regiments. Commenting on his decision, Collins said, "We had no spare regimental commanders available, but our G3, Dick Partridge, who was anxious to get a command, volunteered for one of the regiments. Though he was not an Infantryman, I knew he had received good basic training at West Point [US Military Academy], had attended the German *Kriegsakademie* just prior to the war and had impressed me favorably since joining the Corps staff.

"For the other regiment I suggested Colonel George Bittman Barth, then Chief of Staff of the 9th Division. Bittman, like Partridge, was an Artilleryman but also a West Pointer, had been one of my lieutenants in the 8th Infantry in Germany [1921] before transferring to the Field Artillery and had seen combat with the 9th Division in the Mediterranean." (This quote was taken from the book *Lightning Joe: An Autobiography* by General Collins, reprinted by Presidio of Novato, California, in 1994, Page 209.)

Collins' reflection on his decision is an important one—the Field Artillerymen he chose brought unique experience and education beyond their branch to the fight. Indeed, they give us a glimpse into what we need in our future Redleg combined arms commanders.

Future Redleg Combined Arms Brigade Commanders. Recent operations in Iraq and Afghanistan also have seen Field Artillery units from platoon to brigade levels serving in combined arms roles with distinction. This recent experience gives a great number of FA officers a unique perspective on the combined arms fight, not unlike their Infantry and Armor peers. When we combine this recent combat experience with the historical precedents that date back to the Civil War, we should pause and reflect on these key questions. What made these officers successful? How can we prepare our Field Artillery Pentathletes for combined arms brigade commands?

Change Our Institutions. Olympic Pentathletes are not developed overnight. Their skills are the products of many years of training and competing to excel in multiple events. They are aware of their strengths and weaknesses, and they prioritize their preparation accordingly.

Today's captains and majors will be no different. The potential to command a combined arms brigade in the future will change their aspirations. They will want more maneuver schooling, more assignments with maneuver formations and a deeper understanding of battlefield functions. They will demand opportunities to develop their Pentathlete skills to be ready for "all of the events"—not just one.

Like it or not, these officers will drive a transformation of our culture that will demand institutional change. It is incumbent on our institutions to respond in kind—to embrace the change in culture while continuing to train the core branch tasks to high standards. For the FA School, this means looking inward for revisions and reaching outward to better integrate the other battlefield functions.

This command opportunity will require more than "adding two blocks of instruction" to the FA Pre-Command Course. Like the Olympic Pentathlete, we must look at the total package—how must our current courses adapt? What courses from the other schools merit Redleg attendance? How can we partner with all of the branch schools for an integrated approach to build this culture? What can we offer in return? Infantry and Armor colonels now are responsible for training, resourcing and leading fires battalions without the oversight of the division artillery—so Field Artillery training needs to be part of their command preparation as well. If we are to meet the Chief's intent, we must put into motion those things that will build the broad base of skills required for Redlegs to command combined arms formations.

The FA School can take some steps now to help build these future combined arms commanders. First, the school can establish a mentorship program with selected former combined arms commanders to link one-on-one with officers slated for combined arms brigade command. This cadre of leaders would serve as personal trainers for the first group of Redlegs—and perhaps beyond—with a series of goals to accomplish throughout the year prior to the Redlegs' taking command.

Such a program should leverage distance learning and focus our new commanders on relevant maneuver doctrine and historical examples of key combined arms actions. It would include training in high-, mid- and low-intensity military operations scenarios. A key aspect of this training will be giving commander's guidance for operations—guidance for each of the combat functions during the military decision-making process (MDMP). In the process, the mentor can coach the future commander and share his experience and knowledge of combined arms operations.

Take Stock and Develop New Skills. Field Artillerymen bring many strengths to the combined arms fight. Redlegs are known for their attention to detail in planning, high standards in preparation, precision in execution and teamwork throughout.

Lieutenant General Harold G. "Hal" Moore, in his book *We Were Soldiers Once…And Young*, says "there are three ways a commander can influence the battlefield: fire support, committing the reserve and his personal presence on the battlefield." Field Artillerymen bring experience in integrating fires and, as fire support officers (FSOs), are side-by-side commanders for many, if not most, of their key decisions—the advantage of participating in these important aspects of command.

While Redlegs should be confident in their abilities, they need to be cognizant of their potential shortfalls as well: maneuver technical skills and training oversight, direct fire gunnery and live-fire exercises, command and control, aviation integration, mobility and (or) countermobility operations, intelligence and a general feel for terrain and maneuver in time and space. In addition, they must have the skills to lead their combined arms brigades in operations across the spectrum of conflict from high-intensity to counterinsurgency.

Just as the Olympic Pentathlete cannot focus solely on his strengths, a brigade commander cannot focus on his strengths. He must take inventory of his shortfalls, prioritize what he needs to fix and make a plan to do it—now, prior to command, as well as after taking the colors.

A simple review of the battlefield functions can be a first step in determining where weaknesses lie. A commander must provide guidance for each of these functions as part of his orders process and then assess the state of preparation from battlefield circulation. Superficial actions here can have dire consequences, at worst, and suboptimal performance, at best.

Redlegs should watch their combined arms brigade and battalion commanders closely and solicit their advice on what works well and what doesn't. In this information age, a few well addressed emails to peers and superiors and research of military websites, such as companycommander.com, can go a long way in giving a plethora of policies and proven command techniques.

Be Open to Subordinate Mentoring. Regardless of career preparation, self-assessment results and actions to prepare for the combined arms pentathlon, leaders will have some personal weaknesses. Again, the keys are an honest assessment and prioritization of what skills to address first.

The new commander should consider a straightforward approach to his subordinate commanders. For example, he could say, "Teach me about integrating obstacles into an engagement area" or "Run me through your preparation and execution of squad live fires." Subordinates will appreciate candor and welcome the opportunity to "show their stuff." The Redleg commander can use this approach during scheduled training events.

Just as important are the brigade's principal staff advisors: the command sergeant major (CSM), executive officer (XO) and operations officer. The Redleg commander should ask for a deputy commander if one is not authorized and ask all of them to advise him. In the aggregate, these key advisors will provide experiences that will help balance the commander's weaknesses. They can be a sounding board for decisions and a telescope into various aspects of the unit.

Understand the Brigade Commander's Role. The combined arms brigade commander is *not* a battalion commander anymore. One of the blessings of brigade command is that there are enormously talented battalion commanders who are selected by a highly competitive process. They will benefit from the brigade commander's perspective, experience, genuine interest and support for their units.

The brigade commander does not reach into their business and "command" their battalions. He gives guidance, resources training and equipment, receives back briefs on orders, circulates during both training and operations, and provides feedback throughout. He demands tough combined arms exercises (CPXs) with both dry and live fires and enforces high standards in peacetime just as ruthlessly as he does in combat.

At the same time, Redleg combined arms commanders should trust their instincts and know that a history of Redlegs past have excelled at the complex task of leading brigades.

Parting Thoughts. We must be careful what we ask for—we just might *get it*. While Field Artillery leaders have worked hard to gain this opportunity and the Chief of Staff of the Army has shown great confidence in our branch's taking up the mantle of commanding combined arms brigades, we should not believe that excellence will come from "our mere presence on the battlefield." Redleg bravado will go only so far, and, in the end, these combined arms brigades will need competent and experienced, if not gifted, leaders to win future fights.

We must not fall into the trap of assuming talented Redlegs innately have what it takes to excel in combined arms commands; rather, we should take every

precaution to develop them to ensure the success of their combined arms brigades and the Army.

Just as Colonels Barth and Partridge had unique experiences and education to help them command Infantry regiments, we must do all we can to broaden the experience of our future combined arms brigade commanders to ensure they provide the skilled leadership their Soldiers deserve.

Indeed, there is much we can do to help these leaders be as successful as the legacy of excellence that went before them. In the end, it will be the Field Artillery and fire support that will benefit the most as this "sea change" in missions will embed combined arms operations even deeper into our culture and ensure we can be the Pentathletes our Army must have for the future.

Colonel Gary H. Cheek is the Chief of Strategic Planning in the Deputy Directorate for the War on Terrorism, J5, on the Joint Staff at the Pentagon. He commanded the 25th Infantry Division (Light) Artillery out of Schofield Barracks, Hawaii, deploying 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 (Wolf 07) 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; serving as Executive Officer of the 1-41 FA and G3 Plans Officer, both in the 24th Infantry Division (Mechanized) at Fort Stewart; and serving as the US 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.

New AC: Colonel Albert Johnson, Jr.

Colonel Albert Johnson, Jr., became the Assistant Commandant (AC) of the Field Artillery School and Deputy Commanding Officer of the Fires Center of Excellence and Fort Sill, Oklahoma, in a ceremony 25 September at McNair Hall, Fort Sill. The outgoing Assistant Commandant, Colonel Jeffrey W. Yaeger, had served in the position since 21 May of this year.

Colonel Yaeger returned to his previous position as Director of the Joint and Combined Integration Directorate (JACI) in the Field Artillery School. He commanded the 3rd Battlefield Coordination Detachment (BCD) in Korea. He also commanded the Special Troops Battalion, a multi-functional unit dual-stationed at Forts Wainwright and Richardson, Alaska.

Colonel Johnson's previous assignment was as the Executive Officer to the Commanding General of the Training and Doctrine Command (TRADOC), Fort Monroe, Virginia. He also served as Chief of Joint Operational War Plans, J7, on the Joint Staff at the Pentagon.

He commanded the 1st Infantry Division Artillery in Germany and, during this tour, deployed to Kosovo as the Chief of Staff of the MultiNational Brigade-East. He also commanded the 1st Battalion, 82nd Field Artillery, 1st Cavalry Division, at Fort Hood, Texas. During this tour, he deployed a significant portion of the battalion to Bosnia in support of peacekeeping operations. Among other assignments, he was a Brigade Fire Support Officer (FSO) and the Division Artillery S3, both in the 1st Infantry Division.

In 1987, Colonel Johnson served in Combat Developments in the Field Artillery School on the Howitzer Improvement Program (HIP) and later as the Chief of the Cannon Division. He holds a MPA from the University of Missouri at Kansas City and was a Military Fellow with the Joint Center for Political and Economic Studies, Washington, DC. He is a native of Lawton, Oklahoma.

***Top*: On the left is COL Jeffrey Yeager, outgoing Assistant Commandant (AC), and on the right is COL Johnson, incoming AC, during a transfer of responsibility ceremony in front of McNair Hall on 25 September. *Right*: COL Johnson speaks to military cohorts, friends and family after becoming AC.**

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III Corps Artillery Inactivates

Below: CSM Willie L. Byrd, CSM of III Corps Artillery, furls the III Corps Artillery colors for casing with COL David D. Haught, III Corps Artillery Commander, while LTG Raymond T. Odierno, CG of III Corps, Fort Hood, Texas, looks on. *Right:* COL Haught presents III Corps Artillery's cased colors to LTG Odierno, inactivating the unit.

Photos by Fred W. Baker III, *Field Artillery*

Soldiers with the colors of the units assigned to III Corps Artillery salute the American flag during the playing of the national anthem. III Corps Artillery was inactivated on 8 September 2006 in a ceremony on the Polo Field at Fort Sill, Oklahoma. III Corps Artillery has an illustrious history since it was first constituted in 1918, including service in World War II in the Central European, Rhineland and Ardennes-Alsace Campaigns; Operation Desert Storm; Operation Enduring Freedom; and Operation Iraqi Freedom. Through a series of inactivations and activations, III Corps Artillery was stationed at Fort Sill on 17 March 1987 and remained until its inactivation on 8 September. It is the first corps artillery to inactivate in the Army's transformation into a modular force.

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